FISH COMMUNITY AND FISH HABITAT INVENTORY OF STREAMS AND CONSTRUCTED DRAINS THROUGHOUT AGRICULTURAL AREAS OF MANITOBA (2002 – 2006)

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LIST OF SYMBOLS, ABREVIATIONS AND ACRONYMS

ITEM	DEFINITION	ITEM	DEFINITION
#	Number	ID	Identification
%	Percent	K	Kick sampler
% SAT	Percent saturation	km	Kilometre
.shp	ESRI SHAPE file format	km^2	Square kilometre
.txt	Text file format	L	Larval drift trap
~	Approximately	Length *	Denotes length is Total length, not Fork length
<	Less than	m	Metre
>	Greater than	m/s	Metres per second
μ	Micrometre	m^2	Square metre
μS/cm	Microseimens per centimetre	m^3/s	Cubic metres per second
A	Anecdotal evidence	Max.	Maximum
ASL	Above sea level	mg/L	Milligrams per litre
B	Beach seine	Min.	Minimum
C	Complex Habitat	MLI	Manitoba Lands Initiative (website)
cfs	Cubic feet per second	mm	Millimetre
cm	Centimetre	MWS	Manitoba Water Stewardship
D	Dipnet	N/A	Not applicable
DC	Direct current	NTS	National Topographic Series
DD	Decimal degrees	NTU	Nephalometric Turbidity Units
DES	Designation of Drains	O	Observation
DFO	Fisheries and Oceans Canada	°C	Celsius degrees
DO	Dissolved oxygen	PR	Provincial Road
E	Backpack electrofisher	PTH	Provincial Trunk Highway
FIHCS	Fisheries Inventory Habitat Classification System	S	Simple Habitat
GIS	Geographic Information System	SARA	Species at Risk Act
GPS	Global Positioning System	YOY	Young-of-year
hr.	Hour	Z	Electrofishing boat
hrs.	Hours		

ABSTRACT

Milani, D.W. 2013. Fish community and fish habitat inventory of streams and constructed drains throughout agricultural areas of Manitoba (2002-2006). Can. Data Rep. Fish. Aquat. Sci. 1247: xvi + 6,153 p.

Recognizing the importance of well-drained agricultural land and the need to maintain drainage capacity while still protecting valuable fish habitat, the governments of Manitoba and Canada initiated an inventory of the fish community and habitat diversity of streams and constructed drains throughout agricultural areas of southern Manitoba. Over five field seasons between 2002 and 2006, field crews measured basic water chemistry, assessed fish habitat, sampled the fish community and documented conditions at 2,371 sampling sites. These data were used to classify the streams and constructed drains using the habitat classification protocol provided by the Manitoba Drain Maintenance Committee. This report lists and summarizes the fish community and fish habitat data gathered, and provides a series of map tiles displaying the classified habitat throughout the study area.

RÉSUMÉ

Milani, D.W. 2013. Inventaire des communautés et des habitats de poissons dans les cours d'eau et les canaux de drainage de construction humaine dans les secteurs agricoles du Manitoba (2002-2006). Rapp. stat. can. sci. halieut. aquat. 1247: xvi + 6 153 p.

Reconnaissant l'importance du drainage adéquat des terres agricoles et la nécessité de maintenir cette capacité tout en protégeant les habitats de poissons importants, les gouvernements du Canada et du Manitoba ont entamé un inventaire de la diversité des communautés et des habitats de poissons dans les cours d'eau et les canaux de drainage de construction humaine des secteurs agricoles du sud du Manitoba. Pendant cinq saisons de travaux sur le terrain, entre 2002 et 2006, les équipes ont mesuré les propriétés chimiques de l'eau, évalué les habitats de poissons, échantillonné les communautés de poissons et consigné les conditions relevées à 2 371 sites différents. Les données recueillies ont été utilisées pour classifier les cours d'eau et les canaux de drainage de construction humaine à l'aide du protocole de classification de l'habitat fourni par le Comité d'entretien des drains du Manitoba (Manitoba Drain Maintenance Committee). Le présent rapport présente une liste et un résumé des données recueillies sur les communautés et les habitats de poissons ainsi qu'une série de cartes quadrillées illustrant les habitats recensés dans l'ensemble de la zone visée par l'étude.

1.0 INTRODUCTION

In Manitoba, the extent and value of arable farm land, and the pattern of settlement within the province's grid-based agricultural system, has been strongly influenced by the drainage of wet prairie land begun in the mid-1800's and continuing to date (Stunden Bower. 2006). After the creation of the Province in 1870, networks of surface ditches were constructed in several areas of southern Manitoba to drain wet land (Stunden Bower. 2006). These constructed drains helped to facilitate rapid spring runoff. The rapid runoff and increased drainage effectively extended the growing season by allowing early access to fields in the spring, while also helping to reduce flood damage to crops and property. The constructed drains were typically connected to naturally occurring streams. Over the years, sections of many of these streams were channelized and diked to increase flow capacity. Most of the constructed drains and altered stream channels have required periodic maintenance work (e.g. dredging, vegetation removal) to maintain their hydraulic design capacity.

While the Governments of Canada and the Province of Manitoba recognize the important socio-economic benefits derived from well-drained agricultural land, both governments also share the mandate to conserve and protect water resources and fish habitat. In 2001, the Manitoba Drain Maintenance Committee was convened to gain a better understanding of the role of drains as fish habitat and to document the mechanical processes required for effective drain maintenance. The Committee, which consisted of a team of federal and provincial engineers and biologists, was also tasked with streamlining the regulatory review process and preparing a series of documents to guide the drainage practitioner involved in routine drain maintenance work. As part of this process, the Committee developed a fish habitat classification protocol that was to be applied to streams and drainage networks throughout agricultural areas of southern Manitoba, i.e., agro-Manitoba. The fish habitat classification protocol combined existing information on topography, drainage, fish communities and habitat conditions with data obtained from field surveys. The field data required to classify the streams and drainage networks using the Committee's fish habitat classification protocol were collected by Fisheries and Oceans Canada (DFO) over five summer field seasons between 2002 and 2006.

This report documents the results of the field surveys and summarizes the data and methods used to develop the first iteration of classified fish habitat maps for the study area. The classified fish habitat maps were planned to be iterative. The accuracy and function of the future versions will be improved with the inclusion of additional fish community and habitat data and local knowledge over time.

2.0 STUDY AREA

The study area included the network of natural streams and constructed drains throughout agro-Manitoba (Figure 1). These watercourses have been documented by the provincial Water Resources Branch in the Designation of Drains (DES) map series, which is comprised of one hundred and fourteen sub-watershed scale maps that cover an area of more than 110,000 square kilometres (km^2) and delineate more than 66,500 km of stream and drainage networks. The DES maps were developed to delineate drains where maintenance was designated as a provincial responsibility and drains where maintenance was designated as a municipal responsibility.

Sampling effort was focused on constructed drains, channelized streams, headwater tributaries and small, wadeable rivers within the study area. Sampling did not include on-farm drainage constructed by landowners to convey water from fields, and did not include roadside ditches unless they were designated as drains by the province or municipality.

A small number of site surveys were conducted on streams located just outside of the area of DES map coverage. Data from these sites have been included in the results.

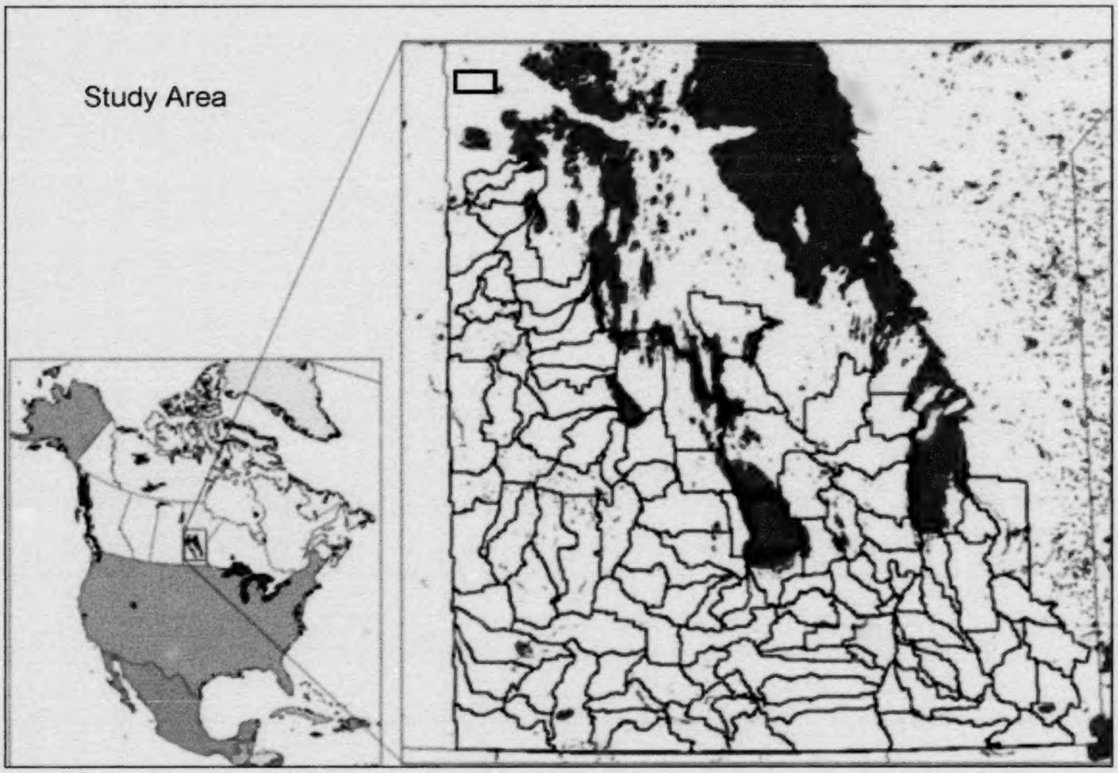


Figure 1: **Map showing the location and extent of the study area as defined by the area of coverage provided by all sub-watersheds in the DES map series. The boundary of each DES map in the series is shown.**

The list of the individual DES maps is provided in Table 1. The list provides the DES map number, DES map name and the area of coverage. It should be noted that the series does not have a Map #1. Nor does it have a Map #50. As well, there are two maps labelled Map #31 (#31W- Lower Interlake Area; and #31E– East Lower Interlake Area).

Table 1: The list of 114 sub-watersheds in the DES map series that formed the study area showing the DES map number, DES map name, and the area of coverage for each map in the series.

DES MAP NUMBER	DES MAP NAME	AREA (km^2)
2	Lower Roseau River Area	1707.3
3	Upper Rat River Watershed	787.6
4	Lower Rat River Watershed	828.2
5	Marsh River Watershed and Adjacent Areas	605.7
6	Tourond Creek and St. Adolphe Coulee Watershed	452.5
7	Manning Canal Area	508.1
8	Seine River Diversion Watershed	1007.9
9	Lower Seine River Watershed	723.2
10	Brokenhead River Watershed	1828.1
11	Cooks Creek Watershed	744.2
12	Bunns Creek Watershed	340.1
13	Devils Creek Watershed	706.9
14	Catfish Creek Watershed	618.3
15	Riviere aux Marais, Plum River and Adjacent Area	2095.5
16	Shannon Creek Watershed	834.5
17	Tobacco Creek Area	1199.7
18	Norquay Channel Area	1898.9
19	Upper Morris River Area	508.3
20	King Drain Watershed	168.5
21	Elm Creek Watershed	650.8
22	Lower La Salle River Watershed and Adjacent Areas	848.5
23	Central La Salle River Watershed	672.6
24	Upper La Salle River Watershed	746.5
25	Long Lake Area	520.5
26	Sturgeon Creek and Adjacent Watersheds	850.9
27	Grassmere Creek Drain Watershed	488.9
28	Parks Creek and Adjacent Watersheds	249.4
29	Wavey Creek and Adjacent Area	678.7

Table 1: **The list of 114 sub-watersheds in the DES map series that formed the study area showing the DES map number, DES map name, and the area of coverage for each map in the series.**

DES MAP NUMBER	DES MAP NAME	AREA (km^2)
30	Netley Creek and Adjacent Area Watersheds	930.1
31E	East Lower Interlake Area	1360.4
31W	Lower Interlake Area	1154.5
32	Icelandic River Area	1299.5
33	Fisher River Area	2116.5
34	R.M. of Siglunes and R.M. of Eriksdale	1671.2
35	Rat Creek Area	491.0
36	Westbourne Drain Watershed	443.4
37	Squirrel Creek Watershed	535.0
38	Pine Creek Area	838.2
39	Upper Whitemud River Area	1361.3
40	Boggy Creek Watershed	811.5
41	Kinosota Ridge Watershed	586.2
42	Big Grass Marsh Watershed	1206.4
43	Big Grass River Area	1744.2
44	Upper Turtle River Watershed	703.5
45	Lower Turtle River Watershed	1174.3
46	Ochre River Watershed	576.4
47	Vermilion River and Edwards Creek Watershed	1095.6
48	Wilson River Watershed	970.0
49	Fishing River and Mink Creek Watersheds	614.9
51	Upper Roaring River and Ruby River Watersheds	612.6
52	Lower Roaring River and Favel River Watersheds	551.5
53	Lower Swan River and Sinclair River Area	869.5
54	Mary Jane Creek and McCoys Creek Watersheds	464.7
55	Swan Lake and Pilot Creek Watersheds	553.3
56	Crystal Creek, Cypress Creek and Rock Lake Watersheds	864.8
57	Upper Pembina River Watershed	764.6
58	Badger Creek and Long River Watersheds	1007.8
59	Pelican Lake Watershed	666.9
60	Lower Pembina River Watershed	878.6
61	Upper Swan River and Lobstick Creek Watersheds	877.9
62	Plum Creek Area	1584.9

Table 1: **The list of 114 sub-watersheds in the DES map series that formed the study area showing the DES map number, DES map name, and the area of coverage for each map in the series.**

DES MAP NUMBER	DES MAP NAME	AREA (km^2)
63	Stony Creek Watershed	1054.0
64	Jackson Creek and Graham Creek Watersheds	658.3
65	Upper Souris River Watershed	1572.0
66	Medora Creek Watershed	471.4
67	Central Souris River Area	933.3
68	Elgin Creek and Whitewater Lake Watersheds	1804.8
69	Lower Souris River Watershed	820.0
70	Oak Creek Watershed	1086.1
71	Cypress River Area	789.0
72	Upper Oak River Watershed	1254.9
73	Lower Oak River and Adjacent Area Watersheds	1377.7
74	Minnewasta Creek and Adjacent Area Watersheds	1298.3
75	Bosshill Creek and Adjacent Area Watersheds	992.3
76	Lower Birdtail Creek Watershed	882.5
77	Upper Birdtail Creek Watershed	603.3
78	Niso Creek, Snake Creek and Adjacent Area Watersheds	1597.6
79	Silver Creek and Adjacent Area Watersheds	906.8
80	Upper Little Saskatchewan River Watershed	961.4
81	Central Little Saskatchewan River Watershed	1355.6
82	Lower Little Saskatchewan River and Adjacent Area	2065.0
83	Lower Whitemouth River Watershed	1019.6
84	Birch River Watershed	1040.6
85	Central Whitemouth River Watershed	1189.9
86	Upper Whitemouth River Watershed	920.7
87	Upper Roseau River Watershed	945.1
88	Upper Brokenhead River Watershed	801.6
89	Upper Woody River Watershed	1214.3
90	Lower Woody River Watershed	678.6
91	Upper Shell River and Adjacent Area Watersheds	1218.3
92	Lower Shell River and Adjacent Area Watersheds	2301.2
93	Upper Valley River and Adjacent Area Watersheds	912.3
94	Central Valley River and Adjacent Area Watersheds	1112.9
95	Lower Valley River Watershed	1240.1

Table 1: The list of 114 sub-watersheds in the DES map series that formed the study area showing the DES map number, DES map name, and the area of coverage for each map in the series.

DES MAP NUMBER	DES MAP NAME	AREA (km^2)
96	Lac du Bonnet Area Watershed	1995.2
97	Bell River and Adjacent Area Watersheds	606.1
98	Little Souris River and Adjacent Area Watersheds	1800.9
99	Epinette Creek, Willow Creek and Adjacent Area Watersheds	1559.8
100	Part of Assiniboine River Watershed	1176.6
101	Portage Delta Watershed	910.3
102	Fork River and Adjacent Area Watersheds	1043.1
103	Garland River and Adjacent Area Watersheds	902.6
104	Pine River Watershed	588.7
105	Sclater River and Duck River Watersheds	958.3
106	Washow Bay and Adjacent Area Watersheds	1289.7
107	Hamlin Drain and Adjacent Area Watersheds	1211.8
108	North Shoal Lake and Adjacent Area Watersheds	957.0
109	West Shoal Lake and Adjacent Area Watershed	904.2
110	Garrioch Creek and Adjacent Area Watersheds	1069.6
111	Birch Creek and Adjacent Area Watersheds	962.2
112	Gypsumville Area Watershed	1311.8
113	Crane River and Adjacent Area Watersheds	1787.8
114	Pasquia Area Watersheds	800.0
115	Steeprock River Watershed	746.7

Paper copies of the DES maps have been available for decades. These maps were used by the field crews to locate stream and drain survey reaches in the field. Presently, most but not all of the maps in the DES map series are available in an electronic, geo-referenced format suitable for use in a Geographic Information System (GIS).

3.0 MATERIALS AND METHODS

Information on the fish communities and habitat conditions within the study area was required to classify the streams and drains in accordance with the fish habitat classification protocol developed by the Manitoba Drain Maintenance Committee (Figure 2). Given the physical size of the study area, the length of stream or drain to be surveyed and the type and amount of data required to classify the watercourse a fairly rapid assessment protocol was needed to gather data in a timely manner. As well, the sampling protocols had to be applied over a wide range of channel types with varied physical characteristics.

The following sections provide a description of the materials and methods used to gather and compile the data required to classify the stream and drainage networks according to the fish habitat classification protocol provided by the Manitoba Drain Maintenance Committee.

3.1 FISH HABITAT CLASSIFICATION PROTOCOL

The Manitoba Drain Maintenance Committee developed a fish habitat classification protocol to identify the streams and drains that might be more sensitive to habitat disturbance from routine maintenance work. The protocol involved the following main steps at each sampling reach:

1. Determine if the stream or drain provides direct or indirect fish habitat
2. Determine if fish are present in the stream or drain
3. Determine if indicator fish species are present in the stream or drain
4. Determine if the habitat is simple or complex
5. Classify the type of stream at that sampling reach (Type A, B, C, D or E)

These steps are summarized and illustrated in Figure 2, the Habitat Type Decision Flowchart.

The Habitat Type Decision Flowchart provided the basis for evaluating habitat conditions, habitat diversity and the approach to assessing fish community, and provided a clear and concise result for classifying each stream reach sampled.

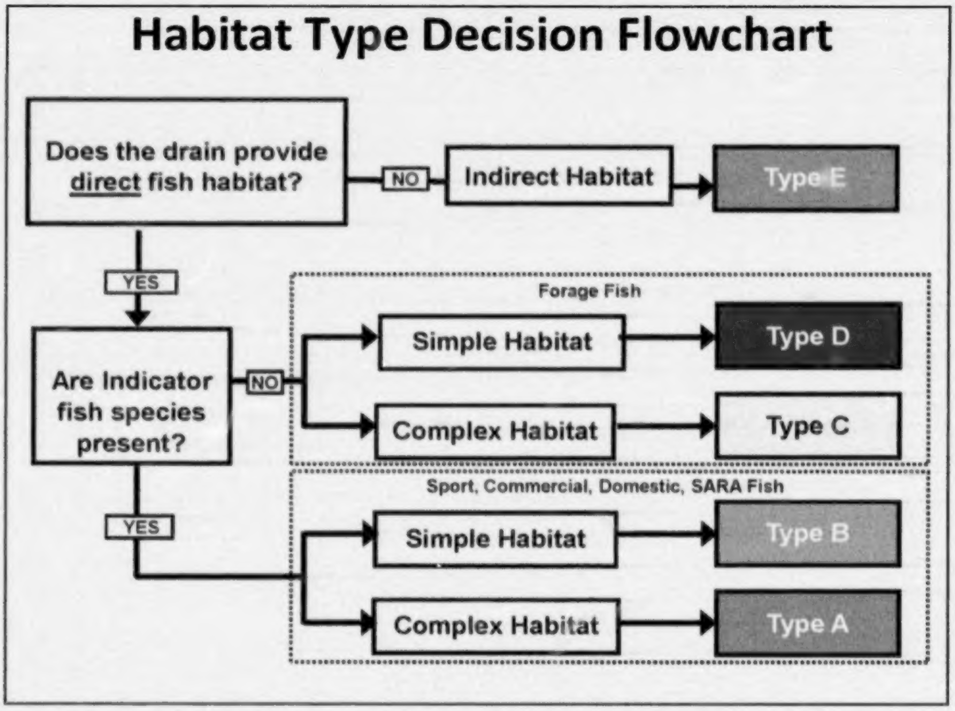

Habitat Type Decision Flowchart
Does the drain provide direct fish habitat?
NO
Indirect Habitat
Type E
YES
Forage Fish
Are Indicator fish species present?
NO
Simple Habitat
Type D
Complex Habitat
Type C
Sport, Commercial, Domestic, SARA Fish
YES
Simple Habitat
Type B
Complex Habitat
Type A

Figure 2: **Fish habitat classification decision flowchart applied to streams and drains within the study area.**

Direct fish habitat included watercourses where fish can complete any of their life processes, i.e., spawning, rearing, feeding, migration or over-wintering. Indirect fish habitat included ephemeral watercourses that typically have insufficient flow volume or flow duration to allow fish to complete one or more of their life processes. These ephemeral watercourses may not provide habitat for fish to complete one or more of their life processes, but may provide flow and nutrients to downstream areas. These watercourses can also impact downstream areas through the transport of sediment and other deleterious substances.

The fish community decision involved first determining if fish were present in the surveyed reach of the watercourse, and then further defining the fish community based on the presence/absence of "Indicator Species". Indicator Species included large-bodied species with commercial, domestic, or sport fishery value such as Northern Pike (*Esox lucius*), Walleye (*Sander vitreus*) or White Sucker (*Catostomus commersoni*). Indicator Species also included any fish listed in Schedule 1 of the Species at Risk Act (SARA). All other fish were designated as "Non-Indicator" Species. A list of the fish species that might be collected within the study area and their status as an Indicator Species or Non-Indicator Species has been prepared based on the distribution maps and species accounts in Stewart and Watkinson (2004) and is provided in Table 2.

Table 2: List of fish species potentially present within the study area and their status as an Indicator Species (adapted from Stewart and Watkinson. 2004).

FAMILY		Indicator Species		Collected In Study
Scientific Name	Common Name	Yes	No	
PETROMYZONTIDAE: LAMPREYS				
Ichthyomyzon castaneus	Chestnut Lamprey		X	Yes
Ichthyomyzon fossor	Northern Brook Lamprey		X	No
Ichthyomyzon unicuspis	Silver Lamprey		X	No
ACIPENSERIDAE: STURGEON				
Acipenser fulvescens	Lake Sturgeon	X		No
HIODONTIDAE: GOLDEYE AND MOONEYE				
Hiodon alosoides	Goldeye	X		Yes
Hiodon tergisus	Mooneye	X		No
CYPRINIDAE: MINNOWS AND CARP				
Cyprinella spiloptera	Spotfin Shiner		X	Yes
Cyprinus carpio	Common Carp		X	Yes
Hybognathus hankinsoni	Brassy Minnow		X	Yes
Luxilus cornutus	Common Shiner		X	Yes
Macrhybopsis storeriana	Silver Chub		X	No
Margariscus margarita	Pearl Dace		X	Yes
Nocomis biguttatus	Hornyhead Chub		X	Yes
Notemigonus crysoleucas	Golden Shiner		X	Yes
Notropis atherinoides	Emerald Shiner		X	Yes
Notropis blennius	River Shiner		X	Yes
Notropis dorsalis	Bigmouth Shiner		X	Yes
Notropis heterodon	Blackchin Shiner		X	Yes
Notropis heterolepis	Blacknose Shiner		X	Yes
Notropis hudsonius	Spottail Shiner		X	Yes
Notropis percobromus	Carmine Shiner	X		No
Notropis stramineus	Sand Shiner		X	Yes
Notropis texanus	Weed Shiner		X	No
Notropis volucellus	Mimic Shiner		X	Yes
Phoxinus eos	Northern Redbelly Dace		X	Yes
Phoxinus neogaeus	Finescale Dace		X	Yes
Pimephales notatus	Bluntnose Minnow		X	No
Pimephales promelas	Fathead Minnow		X	Yes
Platygobio gracilis	Flathead Chub		X	No
Rhinichthys obtusus	Western Blacknose Dace		X	Yes

Table 2: **List of fish species potentially present within the study area and their status as an Indicator Species (adapted from Stewart and Watkinson. 2004).**

FAMILY		**Indicator Species**		**Collected In Study**
Scientific Name	**Common Name**	**Yes**	**No**	
Rhinichthys cataractae	Longnose Dace		X	Yes
Semotilus atromaculatus	Creek Chub		X	Yes
CATOSTOMIDAE: SUCKERS				
Carpiodes cyprinus	Quillback	X		Yes
Catostomus catostomus	Longnose Sucker	X		No
Catostomus commersoni	White Sucker	X		Yes
Ictiobus cyprinellus	Bigmouth Buffalo	X		Yes
Moxostoma anisurum	Silver Redhorse	X		Yes
Moxostoma erythrurum	Golden Redhorse	X		No
Moxostoma macrolepidotum	Shorthead Redhorse	X		Yes
ICTALURIDAE: FRESHWATER CATFISHES				
Ameiurus melas	Black Bullhead		X	Yes
Ameiurus natalis	Yellow Bullhead		X	No
Ameiurus nebulosus	Brown Bullhead		X	No
Ictalurus punctatus	Channel Catfish	X		Yes
Noturus flavus	Stonecat		X	Yes
Noturus gyrinus	Tadpole Madtom		X	Yes
ESOCIDAE: PIKE AND MUSKELLUNGE				
Esox lucius	Northern Pike	X		Yes
UMBRIDAE: MUDMINNOWS				
Umbra limi	Central Mudminnow		X	Yes
SALMONIDAE: WHITEFISH, TROUT AND SALMON				
Coregonus artedi	Cisco	X		No
Coregonus clupeaformis	Lake Whitefish	X		No
Oncorhynchus mykiss	Rainbow Trout	X		Yes
Salmo trutta	Brown Trout	X		Yes
Salvelinus fontinalis	Brook Trout	X		Yes
Salvelinus namaycush	Lake Trout	X		No
PERCOPSIDAE: TROUTPERCHES				
Percopsis omiscomaycus	Troutperch		X	Yes
GADIDAE: COD-LIKE FISHES				
Lota lota	Burbot	X		Yes
GASTEROSTEIDAE: STICKLEBACKS				
Culaea inconstans	Brook Stickleback		X	Yes

Table 2: **List of fish species potentially present within the study area and their status as an Indicator Species (adapted from Stewart and Watkinson. 2004).**

FAMILY		**Indicator Species**		**Collected In Study**
Scientific Name	**Common Name**	**Yes**	**No**	
Pungitius pungitius	Ninespine Stickleback		X	No
COTTIDAE: SCULPINS				
Cottus bairdii	Mottled Sculpin		X	Yes
Cottus cognatus	Slimy Sculpin		X	No
MORONIDAE: TEMPERATE BASSES				
Morone chrysops	White Bass	X		No
CENTRARCHIDAE: BASS, CRAPPIES AND SUNFISHES				
Ambloplites rupestris	Rock Bass	X		Yes
Lepomis gibbosus	Pumpkin Seed	X		No
Lepomis macrochirus	Bluegill	X		No
Micropterus dolomieu	Smallmouth Bass	X		Yes
Micrpoterus salmoides	Largemouth Bass	X		No
Pomoxis annularis	White Crappie	X		No
Pomoxis nigromaculatus	Black Crappie	X		Yes
PERCIDAE: DARTERS, PERCH, SAUGERS AND WALLEYE				
Etheostoma exile	Iowa Darter		X	Yes
Etheostoma nigrum	Johnny Darter		X	Yes
Perca flavescens	Yellow Perch	X		Yes
Percina caprodes	Logperch		X	Yes
Percina maculata	Blackside Darter		X	Yes
Percina shumardi	River Darter		X	Yes
Sander canadensis	Sauger	X		Yes
Sander vitreus	Walleye	X		Yes
SCIANIDAE: DRUMS				
Aplodinotus grunniens	Freshwater Drum	X		Yes

Simple Habitat was defined as a linear channel having a trapezoidal cross-section, with a fine, uniform substrate and grassed banks or dikes. All other habitat types were considered to be Complex.

3.2 LOCATION, SELECTION AND NAMING OF SAMPLING REACHES

Classification of the streams and drains was undertaken by selecting representative sections i.e., reaches of each drain or stream for sampling. Sampling reaches were selected with the objective of efficiently gathering data from as many sites as possible over the duration of the study. The focussing of sampling effort on a specific region of the study area was most often determined by local weather and flow conditions. Reaches were selected to allow for the classification of stream segments in the lower, middle and upper portions of individual drainage networks. Where possible, sites with a mix of riffle, run, and pool habitat were selected. Finally, sampling reaches had to be safely wadeable.

All sampling reaches were identified by a unique site number formed by: a single letter that identified the survey crew and their base of operation (Brandon, Dauphin or Winnipeg); the last two digits in the year (02 - 06); and a three-digit number corresponding to each reach in the order they were sampled. For example, the site number D-02-001 identifies the crew from Dauphin; the year 2002; and 001 as the first reach surveyed that year. Crews based in Brandon were assigned the letter "B", and Winnipeg crews were identified by the letters "W" and "X" in those years when two Winnipeg-based crews were utilized.

Reaches were also identified by name. If the watercourse had an official Geographical Name, that was used to name the reach (e.g. Netley Creek). Where no Geographical Name existed, the reach was identified as an unnamed tributary with the next downstream named feature being included to help describe the reach (e.g. Unnamed Tributary to Netley Creek). The location of each reach was plotted on the corresponding DES map in the field. Hand-held Garmin E-Trex Legend Global Positioning System (GPS) units were used to determine the latitude and longitude in decimal degrees (DD) for each site.

3.3 BASIC WATER CHEMISTRY MEASUREMENTS

Prior to commencing any instream work, temperature, dissolved oxygen (DO), pH, conductivity and turbidity of the water were measured. Where possible, these parameters were measured in non-turbulent run habitat. Ambient air temperature was also measured and collected at each site.

Water temperature (^{o}C) was measured at a single location using an alcohol thermometer and the result was used to calibrate the field crews' dissolved oxygen meters.

DO measurements were collected in non-turbulent flow using Hanna Instruments Model HI9143 DO meters. Results were recorded as both milligrams per litre (mg/L) and the percent saturation (% SAT). The operation of the DO meter required the probe to be calibrated to the water temperature and altitude (ASL) of the site with each use. The altitude of the reach was determined by the field crews' GPS units.

The pH was measured using Hanna Instruments Model HI991300 pH/Conductivity meters. The pH probe was calibrated at the start of the field season and was recalibrated as required based on the performance against standard pH solutions and on day-to-day performance in the field.

Conductivity (µS/cm) was measured using Hanna Instruments Model HI991300 pH/Conductivity meters. The conductivity probe was calibrated at the start of the field season and was recalibrated as required based on the performance against standard conductivity solutions and on day-to-day performance of the instrument in the field.

Turbidity was measured as Nephelometric Turbidity Units (NTUs) using Hanna Instruments HI93703 turbidity meters. Turbidity meters were calibrated at the start of the field season and were recalibrated on a monthly basis or more frequently based on day-to-day performance of the instrument in the field.

3.4 FISH COMMUNITY SAMPLING AND IDENTIFICATION

The objectives of the fish community sampling at each reach were to confirm the presence of fish and determine whether Indicator Species were present. The fish community sampling was carried out using at least one of the following fishing methods: backpack electrofisher, beach seine, dip net, larval drift trap or kick sampler. Visual observations of fish were recorded when field crews were confident with their identification of the fish being observed. The fishing effort expended with each fishing method was recorded.

Where possible, all fish collected were identified to species using the keys and species accounts under development and subsequently published by Stewart and Watkinson (2004). In most cases, adult members of those species designated as "Indicator Species" were photographed, measured and released, unless conditions required fish to be released immediately. All length measurements refer to fork-length unless noted with an asterisk, or are stated as total-length. Very small specimens were measured to total-length as noted. Retained fish were first fixed in 10% formalin and then preserved in 70% ethanol for later identification in the lab. In some cases, only a representative sub-sample of non-indicator species was retained. Specimens collected in 2004 and 2005 were provided to the Manitoba Museum.

3.4.1 Backpack Electrofishing

Backpack electrofishing was the preferred and most versatile fish sampling method in most situations. All crews were trained and certified for backpack electrofishing using the Ontario Watershed Science Center Electrofishing Manual. As well, the training required a valid CPR Lifesaver (or equivalent) Certificate. Training involved both in class and in the field assessments. Field assessments were continued occasionally throughout the summer.

Electrofishing was carried out by crews of at least two people, with one person operating the backpack electrofisher and at least one person netting fish and caring for the catch. Smith-Root, Model LR-24 Backpack Electrofishers were used by all field crews. The selection of electrofisher settings (voltage, frequency and duty cycle) was made based on the response of fish collected. The preferred settings produced a strong response in fish of most sizes and yet allowed fish to fully recover within a few minutes after being collected. Typical settings early in the field season were 200 volts (DC), from 15 to 30 hertz frequency, and a 12.5% duty cycle. As the season progressed and conductivity levels tended to increase, the settings on the electrofisher had to be changed to maintain the preferred response by fish. The preferred response was often regained by adjusting voltage between 200 to 300 volts, incrementally bumping up the frequency to 60 hertz and by increasing the duty cycle up to 25%. Late in the season under low flow and high conductivity conditions, some species, such as Northern Pike, became very difficult to collect due to a strong fright response to physical disturbance and electrical current outside of the effective zone of the electrofisher.

In most situations, electrofishing crews preferred to selectively fish upstream towards likely micro-habitats and available cover using a quiet, randomized approach. In some situations, such as high flow or elevated turbidity when operator visibility was limited, reaches were fished using a more systematic approach. In all cases, care was taken to ensure all habitat types were fished. The effectiveness of electrofishing was often limited in pools with a depth of more than 1.0 metre. Electrofishing effort was recorded as the number of seconds the electrical current was applied times the length of stream in metres (m) that was fished.

3.4.2 Beach Seining

Beach seines usually provided the best fish collection method in situations such as deep pools, high conductivity water or very turbid stream conditions where electrofishing was less effective. Beach seining was best in deeper pools with smooth bottoms and few snags.

Field crews had two beach seines (1m x 10m x 3mm mesh and 1.8m x 18m x 3mm mesh) for use, depending on stream conditions. Beach seines were most often drawn upstream through pools toward barriers such as riffles or culverts. Scour pools below culverts were often very productive, especially in late summer and during periods of low flow. Beach seining effort was recorded as the length in metres (m) of stream seined times the average width in metres (m) of stream seined.

3.4.3 Kick Sampling

Kick sampling in riffles was an effective way to collect fish eggs and to collect those species of fish that reside at the bottom of higher velocity habitat. Kick sampling was carried out by placing a 500 micrometre (μ) Nitex mesh, D-framed kick sampling net downstream of the area of the bottom being disturbed by the toe of a boot overturning stones and gently stirring up a small areas of the bottom. Fish and any fish eggs were handpicked from the sample and were preserved for later identification.

Additional replicate samples were collected throughout the range of flow velocities and depths present on the riffle until an area of about 1 m^2 had been sampled. Kick sampling for eggs allowed the study team the opportunity to collect a life stage of an Indicator Species that may have already left the area after spawning. Kick sampling effort was recorded as the total area in square metres (m^2) sampled by all replicates combined.

3.4.4 Larval Drift Sampling

Larval drift sampling was carried out using 500 μ Nitex mesh drift nets with either a 22 cm or 30 cm square opening at the upstream end. Nets were set in flowing waters to collect recently hatched larval fish drifting with the current. Drift nets were often set at a site for the period of time it took a crew to complete a reach survey, i.e., between 0.5 and 3 hours. In other cases drift nets were set overnight. Larval fish, eggs and egg husks were handpicked from the samples and were preserved for later identification. As with kick sampling, larval drift sampling allowed the study team to extend the opportunity to collect a life stage of an Indicator Species.

Larval drift sampling effort was measured in minutes for short sets and in hours and minutes for overnight sets.

3.4.5 Dip-Netting

Dip-nets were occasionally used to sample the fish community. Dip-netting with a fine (3 mm) mesh, long handled net was effective in standing pools, undercut banks, plunge pools and other situations. Fine mesh dip-nets were effective when used to sweep through dense aquatic vegetation to collect post-larval Northern Pike and other small fishes.

Dip-netting effort was recorded as the number of "arm's length" sweeps made through each habitat type or cover type.

3.4.6 Visual Observations

At some sites, it was possible to confirm the presence of Indicator Species such as white sucker when spawning on shallow, riffle habitat, with a simple visual observation. Records of visual observations of fish included the species, approximate number observed, and a description of the observation (e.g., hundreds of White Sucker congregated below culvert).

3.4.7 Fish Collection Field Notes

At each site where fishing effort was expended, field crews recorded the effort and noted the catch, including Nil Catch, for each gear type used. Field notes were also used to record the number and species of released fish, the length range of released Indicator Species, any observations of fish maturity, spawning activity, spawning colouration, parasites, injuries or other conditions. Crews also noted the presence of obstructions, such as beaver dams or perched culverts that might affect the fish community. Any conditions that might have influenced the effectiveness of the fishing gear used were also noted.

3.5 DETERMINATION OF FISH HABITAT COMPLEXITY

The fish habitat classification flowchart defined Simple Habitat as a linear channel having a trapezoidal cross-section, with a fine, uniform substrate and grassed banks or dikes. All other stream conditions were considered to represent Complex Habitat.

At all sites visited, field crews used the definition of Simple Habitat as a guide to classify habitat complexity when looking both upstream and downstream from mid-reach. Linear, constructed drainage networks often had short reaches of more diverse (or more complex) instream and riparian habitat within extensive areas of Simple Habitat. The visual determination of Simple or Complex Habitat was made based on the dominant habitat condition in view of the reach.

3.6 HABITAT ASSESSMENT

The rating of twelve instream and riparian zone habitat conditions using the protocols modified and adapted from Barbour *et al.* (1999) was carried out at sites where fishing effort was expended and where crews were safely able to complete the assessment. The published protocols were modified to include twelve rather than ten habitat parameters for assessment, with the addition of two parameters suitable for assessing pool habitat in low-gradient (<2%) stream reaches.

Each parameter was assessed and based on its condition given a numerical score from a low of 0 to a high of 20. Within that range of scores: the condition of any parameter scoring from 0 to 5 was considered Poor a score from 6 to 10 was considered Marginal; a score from 11 to 15 was described as Sub-Optimal; and a score from 16 to 20 was applied to habitat conditions that were considered to be Optimal for that eco-region.

The following sections provide a brief description of the each parameter assessed. Figure 3 provides the assessment criteria for each habitat parameter and also served as the data collection form used to record the assessment scores at each site.

3.6.1 Available Cover/Epifaunal Substrate

Available Cover was ranked based on the relative quantity and variety of natural structures such as fallen trees, logs, woody debris, large rocks and undercut banks that are available to fish as refuge areas, for feeding or for reproduction. A wide variety and/or abundance of submerged structures in the stream provide fish with a large number of niches, potentially increasing the diversity of the fish community.

Epifaunal Substrate rated the range of microhabitat available to insects and aquatic invertebrates. The most diverse habitat exists when a variety of coarse substrates, such as cobbles and boulders, is present, along with abundant woody debris, logs, and snags. Higher gradient riffle habitat is essential for maintaining some types of aquatic insects. Snags and submerged logs are among the most diverse habitat structures found in lower-gradient streams.

3.6.2 Substrate Embeddedness

Substrate Embeddedness rated the extent to which rocks (gravel, cobble, and boulders) were covered or sunken into the silt, sand or mud of the stream bottom. Generally, as rocks become embedded, the surface area available to benthic invertebrates and fish decreases. Embeddedness is a result of sediment movement and deposition and was evaluated in riffle and run habitat. Embeddedness can vary seasonally and from year to year.

3.6.3 Velocity/Depth Regime

The stream reaches with the highest quality of fish habitat in the study area were considered to have four Velocity/Depth flow regimes present: (1) Slow/Deep; (2) Slow/Shallow; (3) Fast/Deep; and (4) Fast/Shallow. A water depth greater than 0.5 m was considered to be deep; and a flow velocity greater than 0.3 metres/second (m/s) was considered to be fast. The occurrence of all four flow regimes helps to ensure that the range of habitat types necessary to maintain a stable aquatic environment are available for use.

3.6.4 Sediment Deposition

Sediment Deposition rated the amount of sediment that had accumulated in pools and the changes that have occurred to the stream bottom as a result of deposition. Along with drastic changes to pool substrate, sediment deposition can cause the formation of islands, point bars, mid-channel bars and other features. Heavy sediment deposition can cause erosive flow energy to be diverted into stream banks, which can cause bank instability. In some areas of the study area, the deposition of a uniform substrate type, such as shale, can create an unstable and continually changing environment that limits the growth of aquatic vegetation and reduces the amount of available cover.

3.6.5 Channel Flow Status

Channel Flow Status assessed the degree to which the channel was filled with water. When water does not cover much of the stream bed, the amount of viable substrate for aquatic organisms is limited. In high-gradient streams, riffles and cobble substrate are exposed; in low-gradient streams, the decrease in water level exposes logs and snags, thereby reducing the areas of available habitat.

3.6.6 Channel Alteration

Channel Alteration examined the large-scale changes in the shape of the stream channel. Many streams in urban and agricultural areas have been straightened, deepened, or diverted into man-made channels, often for flood control purposes. Channel alteration activities often remove the naturally occurring meanders of the stream, which can shorten the length of the stream, resulting in less habitat area for fish, invertebrates, and plants. Channel alteration is present when artificial embankments, riprap, and other forms of artificial bank stabilization or structures are present; the stream is very straight for significant distances; dams and bridges are present; and/or when other such changes have occurred. Scouring is often associated with channel alteration, particularly in areas downstream of channelized reaches.

3.6.7 Frequency of Riffles (or Bends)

Riffles can be a source of high-quality habitat and diverse fauna in streams; therefore, an increased frequency of riffle occurrence usually enhances the diversity of the stream benthic community. For areas where distinct riffles are uncommon, a run/bend ratio can be used as a measure of one characteristic of channel meandering or sinuosity. Higher sinuosity can provide complexity to the stream habitat, which can increase the diversity of available habitats and fauna, and increase the ability of the stream to withstand flow surges when the stream flow fluctuates as a result of storms. The absorption and deflection of this energy by the stream bends also protects the stream from erosion and flooding.

3.6.8 Bank Stability

Bank Stability rated the condition of the stream banks and assessed whether the banks are eroded, or have the potential for erosion. Steep banks are more likely to collapse and undergo erosion than gently sloping banks. Signs of erosion included slumping, exposed banks and exposed tree roots.

The assessment of Bank Stability was made for each stream bank. The assessor faced upstream when determining the left or right bank of the stream. It should be noted that this varied from the protocol (Barbour *et al.* 1999) where the assessor faces downstream. It is much safer and easier to face upstream when working in streams, especially during high water conditions when debris or ice can be running.

3.6.9 Bank Vegetative Protection

Bank Vegetative Protection assessed the amount of the stream bank that was covered by vegetation. The root systems of plants growing on stream banks help hold soil in place, thereby reducing the potential for erosion. Banks that have healthy, natural plant growth with a variety of age classes of shrubs and trees are also better at providing shade and woody debris inputs, versus stream banks that are bare or shored up with concrete or riprap.

Habitat Parameter	Condition Category			
	Optimal	Sub-Optimal	Marginal	Poor
1. Available Cover/ Epifaunal Substrate	Greater than 70% of substrate favourable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of new fall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Substrate Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3. Velocity / Depth Regime	All 4 velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (slow is <0.3 m/s, deep is >0.5m).	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/depth regime (usually slow-deep).
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% (<20% for low-gradient streams) of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% (20-50% for low-gradient) of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% (50-80% for low-gradient) of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% (80% for low-gradient) of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

Figure 3: **Three page data sheet adapted from Barbour *et al.* (1999) and used as a guide to assess and score twelve individual instream and riparian habitat parameters at sites where fishing effort was applied between 2002 and 2006.**

Habitat Parameter	Condition Category			
	Optimal	Sub-Optimal	Marginal	Poor
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
6. Channel Alteration	Recent channelization or dredging absent or minimal; stream with normal pattern.	Some new channelization, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. In stream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Frequency of Riffles (or Bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural rest areas is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosion scars.
SCORE	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Figure 3: **Three page data sheet adapted from Barbour *et al.* (1999) and used as a guide to assess and score twelve individual instream and riparian habitat parameters at sites where fishing effort was applied between 2002 and 2006.**

Habitat Parameter	Condition Category			
	Optimal	Sub-Optimal	Marginal	Poor
9. Bank Vegetative Protection (score each bank)	More than 90% of the stream bank surfaces and immediate riparian zone covered by native vegetation, including trees, under story shrubs, or non-woody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the stream bank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the stream bank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the stream bank surfaces covered by vegetation; disruption of stream bank vegetation is very high; vegetation has been removed to 5 centimetres or less in average stubble height.
SCORE	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Condition (score each bank)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE	Right Bank 10 9	8 7 6	5 4 3	2 1 0
11. Pool Substrate	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
12. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

Figure 3: **Three page data sheet adapted from Barbour et al. (1999) and used as a guide to assess and score twelve individual instream and riparian habitat parameters at sites where fishing effort was applied between 2002 and 2006.**

3.6.10 Riparian Vegetative Condition

Riparian Vegetative Condition assessed the state of vegetation from the wetted-edge of the stream bank out through the riparian zone to upland vegetation. The vegetative zone serves as a buffer to pollutants and sediment from runoff, helps build stream banks and control erosion, and provides nutrient inputs to the stream. A relatively undisturbed riparian zone can help support a robust stream system.

3.6.11 Pool Substrate

Pool Substrate evaluated the type and condition of substrate found in pools. Substrates such as gravel or sand and rooted aquatic vegetation support a wider variety of organisms than a pool dominated by mud or bedrock and having little or no aquatic vegetation.

3.6.12 Pool Variability

Pool Variability rated the mix of pools in a reach according to the size and depth of the pool. The four basic types of pools were: Large/Shallow; Small/Shallow; Large/Deep; and Small/Deep. Any pool dimension greater than one-half the wetted cross-section of the stream or drain was considered large. Any pool greater than 1.0 m in depth was considered to be deep. A stream with many pool types will typically support a wider variety of aquatic organisms.

3.6.13 Habitat Assessment Score

Totalling the habitat condition scores for each of the twelve parameters that were assessed provides a potential total score ranging from 0 to 240.

Using the same Condition Categories applied to the individual habitat parameters, sites with a Habitat Assessment Score from:

- 0 – 60 were considered to be representative of Poor Habitat
- 61 – 120 were considered Marginal Habitat
- 121 – 180 were rated as Sub-Optimal Habitat
- 181 – 240 were considered to be representative of Optimal Habitat for that eco-region

3.7 REACH PHOTOGRAPHS

A series of digital photographs were taken to document flow, instream and riparian habitat conditions, and channel alterations at each site. Using Olympus Model 4000 or 5000 digital cameras, field crews documented conditions looking both upstream and downstream through the surveyed reach. As well, site photographs were used to document the condition of crossings, culvert inlets and outlets, any apparent effects on the stream from adjacent land use practices, and to provide a photographic record of any Indicator Species or other fish species of interest that were captured and released.

Along with the photograph number generated by the camera and the direction faced (in degrees) when the photograph was taken, a descriptive caption for each photograph was recorded in the field notes.

3.8 REACH FIELD SKETCH

At each site visited a quick field sketch was prepared to document features such as: the wetted channel; minimum and maximum channel widths; locations of riffle, run and pool habitat; maximum and minimum stream depths; cover, bank condition, undercut banks, overhanging vegetation, canopy, emergent and submerged vegetation and boulders; substrate types; woody debris; dams, riparian conditions and any other notable features. As well, each sketch included a North indicator, the location of roads and buildings, and noted adjacent land use activity. Field sketches were scanned and saved as JPEG files.

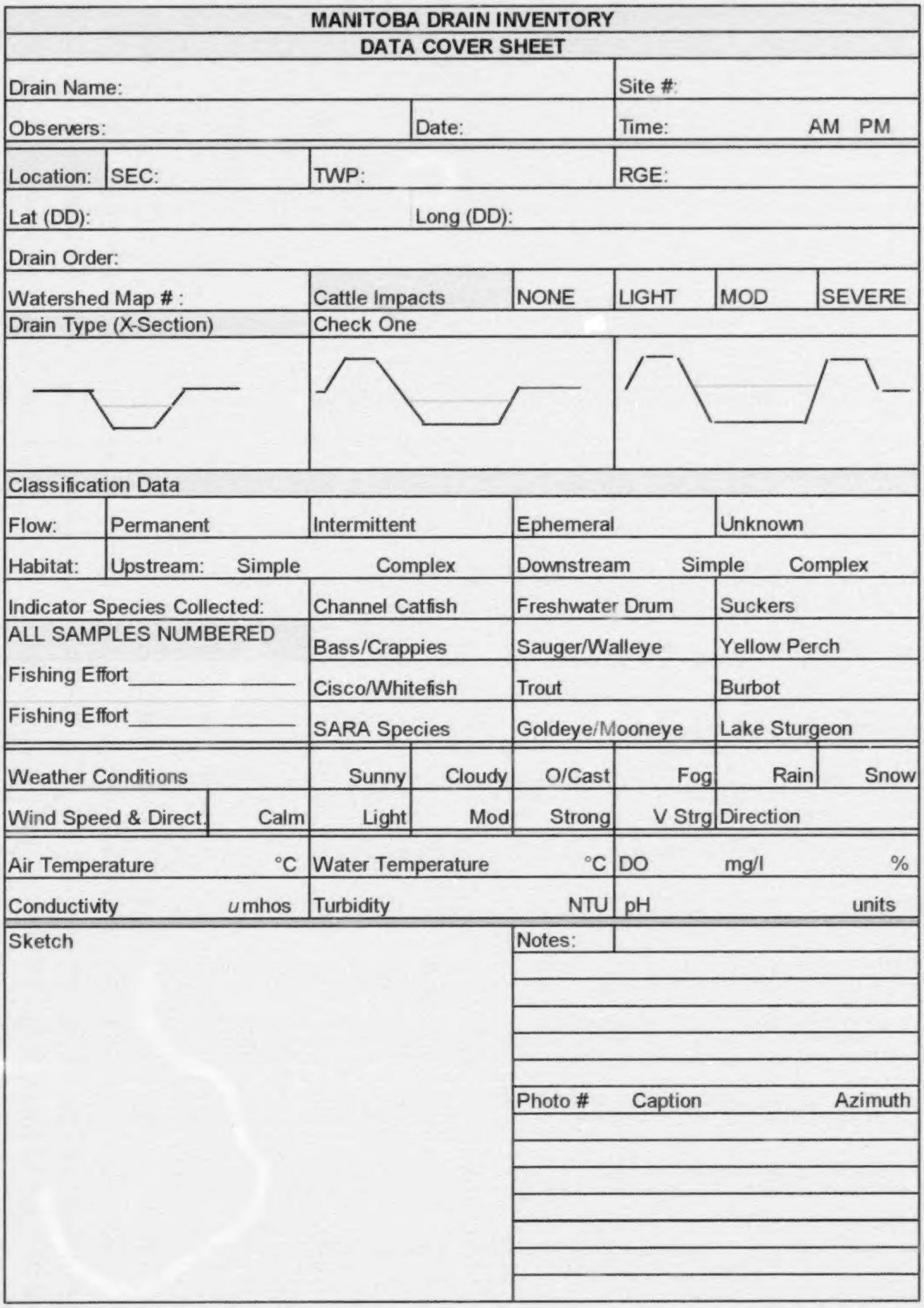
3.9 SITE DATA RECORDING

To ensure that the information gathered at each site visited was collected and recorded in a consistent manner, a Data Sheet was developed to provide field crews with the space to record the following information:

- Site number and name
- Date and time
- Observers names
- Latitude and longitude (DD)
- DES map number
- DES stream order
- Presence/Absence and configuration of dikes
- Indicators of permanent or ephemeral flow
- Weather conditions
- Air temperature and water chemistry
- Fishing effort and statement of catch (or nil catch) for all gear used
- Species, number and length of released fish
- Fish collection sample identification numbers
- Indicator Species collected
- Photograph number, captions and azimuth faced for each photo taken
- Field sketch

- Local knowledge
- Presence of springs
- Habitat complexity (Simple or Complex) looking upstream and downstream
- Habitat Assessment Scores
- An assessment of visible cattle impacts were recorded in the latter years of the study for a 3rd party but have not been included in the results

Additional space was provided for recording site sketches and other information. Figure 4 provides an example of the data sheet used to record the survey data gathered at all of the sites sampled between 2002 and 2006.



MANITOBA DRAIN INVENTORY

DATA COVER SHEET

Drain Name:				Site #:		
Observers:		Date:		Time: AM PM		
Location:	SEC:	TWP:		RGE:		
Lat (DD):		Long (DD):				
Drain Order:						
Watershed Map # :		Cattle Impacts	NONE	LIGHT	MOD	SEVERE
Drain Type (X-Section)		Check One				
Classification Data						
Flow:	Permanent	Intermittent	Ephemeral	Unknown		
Habitat:	Upstream: Simple Complex		Downstream Simple Complex			
Indicator Species Collected:		Channel Catfish	Freshwater Drum	Suckers		
ALL SAMPLES NUMBERED		Bass/Crappies	Sauger/Walleye	Yellow Perch		
Fishing Effort______________		Cisco/Whitefish	Trout	Burbot		
Fishing Effort______________		SARA Species	Goldeye/Mooneye	Lake Sturgeon		
Weather Conditions	Sunny	Cloudy	O/Cast	Fog	Rain	Snow
Wind Speed & Direct.	Calm	Light	Mod	Strong	V Strg	Direction
Air Temperature °C		Water Temperature °C		DO mg/l %		
Conductivity *u* mhos		Turbidity NTU		pH units		
Sketch			Notes:			
			Photo #	Caption		Azimuth

Figure 4: Data sheet used to record the survey data gathered at all sites sampled between 2002 and 2006.

4.0 RESULTS

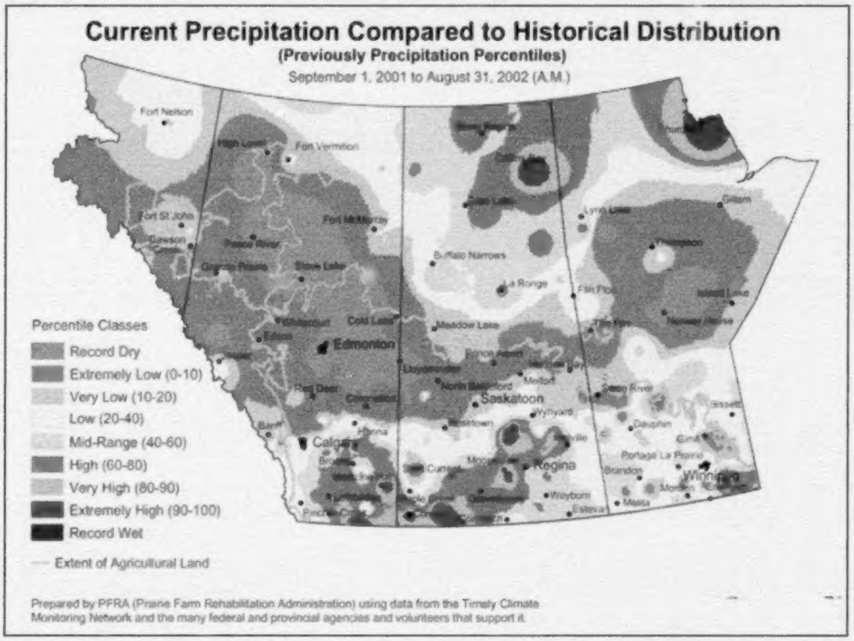
The data transcribed from each crews' field notes and data sheets have been tabled as a series of data spreadsheets and are included as Appendix 1 through Appendix 8 at the end of this report. Appendix 9 provides a series of NTS map tiles showing the sampling locations and sampling results, and also displays the classified streams and drains in the study area. Site photographs are provided in Appendix 10 and field sketches are included in Appendix 11. These are provided in a searchable PDF binder format.

The following sections provide a summary of the collected data and utilize a series of maps, charts and tables to present the results.

4.1 FLOW AND CLIMATIC CONDITIONS

Over the five sampling seasons of the fish community and fish habitat inventory, annual and seasonal flows varied significantly due to climatic conditions. In order to provide some perspective on the range of flow and weather conditions experienced over the course of the inventory, annual precipitation maps, annual drought condition maps and historic hydrometric data are presented in relation to average or normal conditions.

At the start of the inventory in 2002, the Canadian Prairie Provinces were experiencing a third consecutive year of drought conditions (Figure 5).



Current Precipitation Compared to Historical Distribution

(Previously Precipitation Percentiles)

September 1, 2001 to August 31, 2002 (A.M.)

Fort Nelson
Fort Vermilion
High Level
Fort St John
Dawson Creek
Fort McMurray
Peace River
Grande Prairie
Slave Lake
Buffalo Narrows
La Ronge
Flin Flon
Lynn Lake
Thompson
Island Lake
Norway House
Gillam
Cold Lake
Meadow Lake
Edson
Edmonton
Lloydminster
Prince Albert
North Battleford
Melfort
Saskatoon
Wynyard
Swan River
Red Deer
Coronation
Dauphin
Hanna
Calgary
Banff
Kindersley
Regina
Swift Current
Moose Jaw
Brandon
Portage La Prairie
Gimli
Winnipeg
Weyburn
Estevan
Melita
Morden
Pincher Creek
Percentile Classes
Record Dry
Extremely Low (0-10)
Very Low (10-20)
Low (20-40)
Mid-Range (40-60)
High (60-80)
Very High (80-90)
Extremely High (90-100)
Record Wet
Extent of Agricultural Land

Prepared by PFRA (Prairie Farm Rehabilitation Administration) using data from the Timely Climate Monitoring Network and the many federal and provincial agencies and volunteers that support it.

Figure 5: **A comparison of the precipitation amounts received from September 1, 2001 to August 31, 2002 with historical amounts for the period of record (Agriculture and Agri-Food Canada. Prairie Farm Rehabilitation Administration. Historic Climate Data Map Archive).**

From the fall of 2001 to the end of the first season of sampling in 2002, precipitation amounts across much of the province were well below normal (Figure 6).

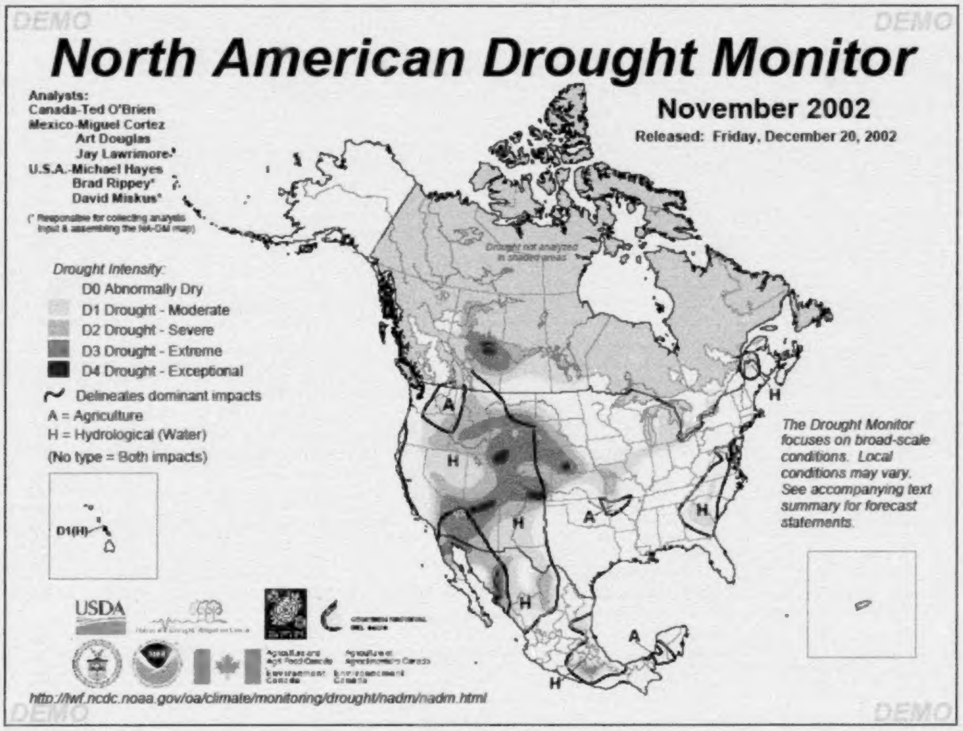
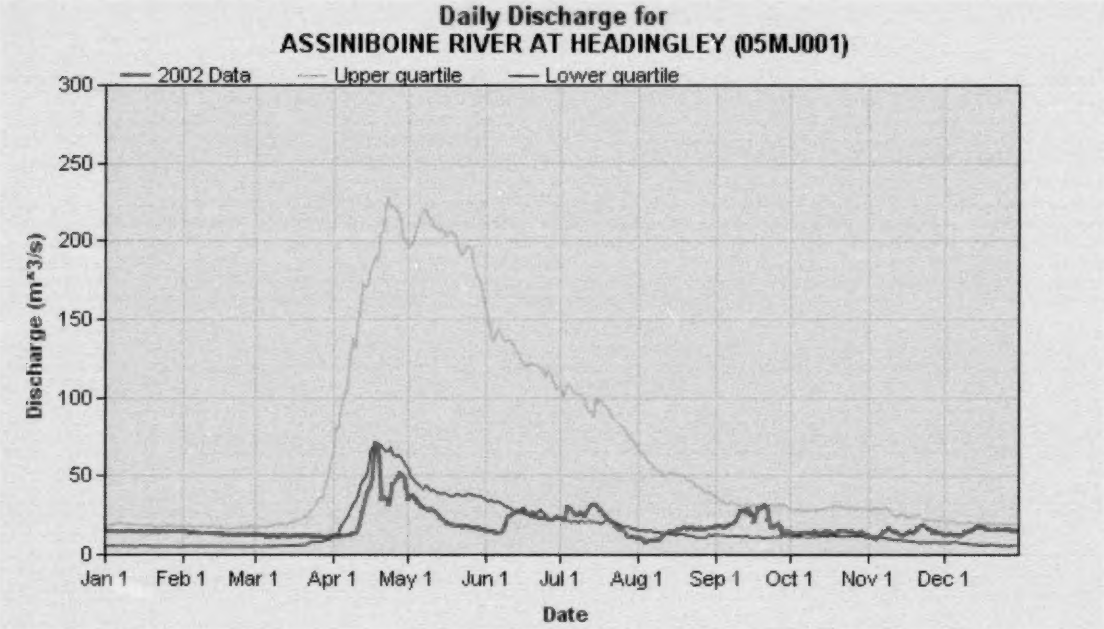

DEMO
North American Drought Monitor
Analysts:
Canada-Ted O'Brien
Mexico-Miguel Cortez
Art Douglas
Jay Lawrimore*
U.S.A.-Michael Hayes
Brad Rippey*
David Miskus*
(* Responsible for collecting analysis input & assembling the NA-DM map)
November 2002
Released: Friday, December 20, 2002
Drought not analyzed in shaded areas
Drought Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional
Delineates dominant impacts
A = Agriculture
H = Hydrological (Water)
(No type = Both impacts)
D1(H)
A
H
H
H
A
H
H
A
H
H
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
USDA
http://lwf.ncdc.noaa.gov/oa/climate/monitoring/drought/nadm/nadm.html

Figure 6: **The intensity and extent of drought conditions across North America in November 2002 (National Oceanic and Atmospheric Administration. National Climate Data Center, Drought Severity Interpretation and Historic Climate Maps).**

In the first season of sampling, flows in the larger river systems in the study area were well below normal. Many of the smaller constructed drains and channelized streams flowing into the Assiniboine and Red Rivers were dry. However, given the geographic extent of the study area, it was still possible to find and sample streams and drains where instream conditions were near normal for that time of the year. Occasionally, extensive rainfall was experienced and some sampling was carried out under high flow and flood conditions.

The daily discharge hydrographs for the Assiniboine River at Headingley (05MJ001) and Devils Creek near Libau (05OJ016) were selected to provide a comparison of annual flow conditions each year of the inventory (2002-2006) with historic daily flows (Environment Canada, Water Survey of Canada, Archived Hydrometric Data). The hydrometric stations were selected for their long periods of record and the relative size and location of their respective drainage areas. The daily flow hydrographs (Figure 7) compare 2002 conditions with the historic upper and lower quartile flows.



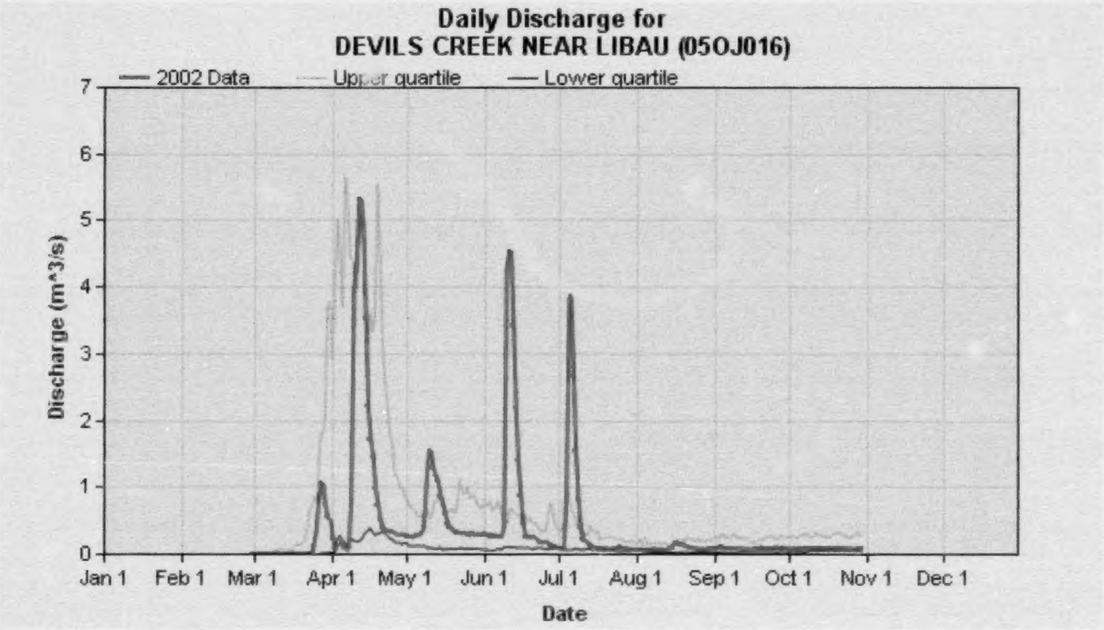


Figure 7: A comparison of 2002 flows with the historic upper and lower quartile daily discharge for the Assiniboine River at Headingley (05MJ001) and at Devils Creek near Libau (05OJ016). (Environment Canada. Water Survey of Canada. Archived Hydrometric Data).

Flows in the Assiniboine River were less than the lower quartile historic flow until late summer. The spring peak in Devils Creek was near the upper quartile of historic flows but was relatively short in duration. Several high flow events were experienced after intense summer rainfall events; however, these flows receded very quickly.

In 2003, conditions across the province were even drier than in 2002 and were considered to be near the 1:50 year drought condition (Figure 8).

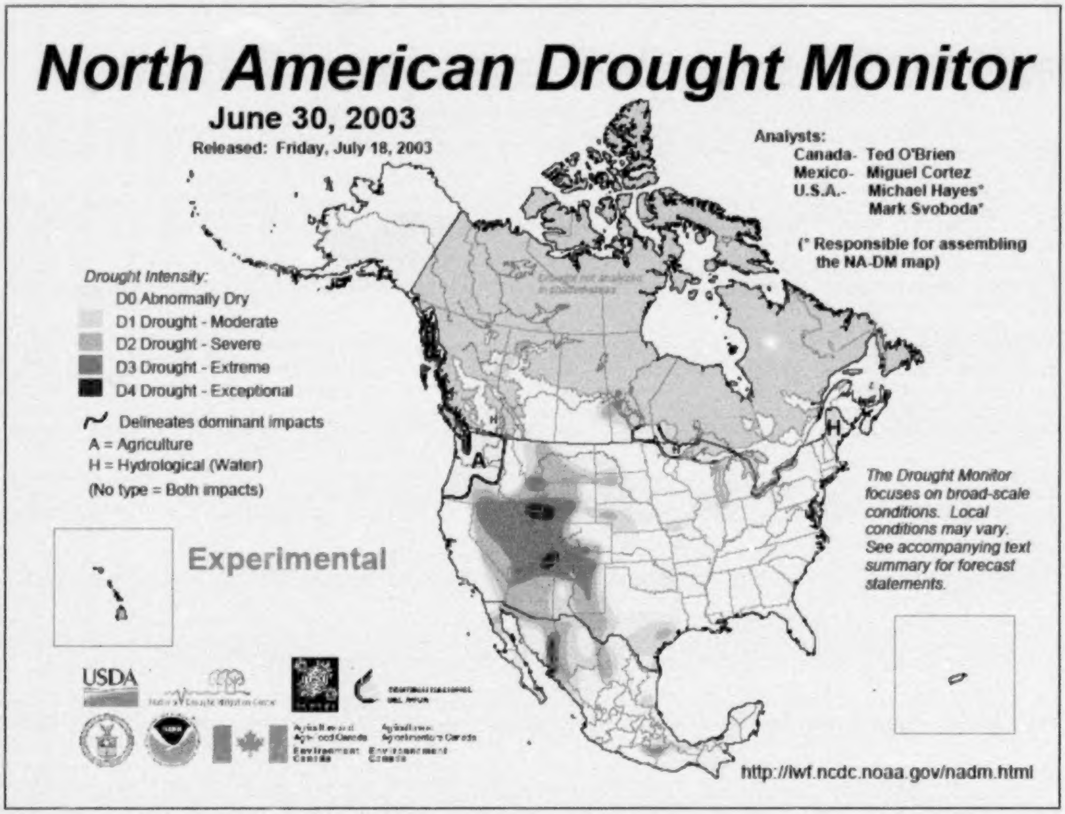

North American Drought Monitor
June 30, 2003
Released: Friday, July 18, 2003
Analysts:
Canada- Ted O'Brien
Mexico- Miguel Cortez
U.S.A.- Michael Hayes*
Mark Svoboda*
(* Responsible for assembling the NA-DM map)
Drought Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional
Delineates dominant impacts
A = Agriculture
H = Hydrological (Water)
(No type = Both impacts)
Experimental
A
H
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
USDA
http://lwf.ncdc.noaa.gov/nadm.html

Figure 8: **The intensity and extent of drought conditions across North America on June 30, 2003 (National Oceanic and Atmospheric Administration. National Climate Data Center, Drought Severity Interpretation and Historic Climate Maps).**

The spring peak in the Assiniboine River at Headingley was near normal but flow quickly receded to a level that was near the lower quartile historic flow amount for the remainder of the year (Figure 9). This was even more dramatically demonstrated in Devils Creek near Libau (Figure 10).

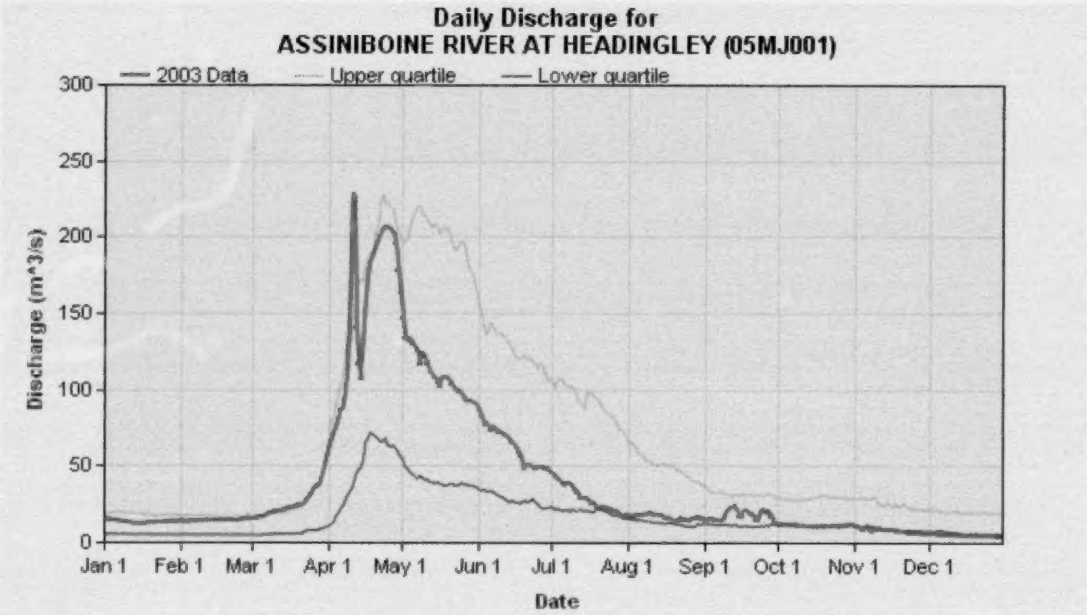


Figure 9: A comparison of 2003 flows with the historic upper and lower quartile daily discharge for the Assiniboine River at Headingley (05MJ001). (Environment Canada. Water Survey of Canada. Archived Hydrometric Data)

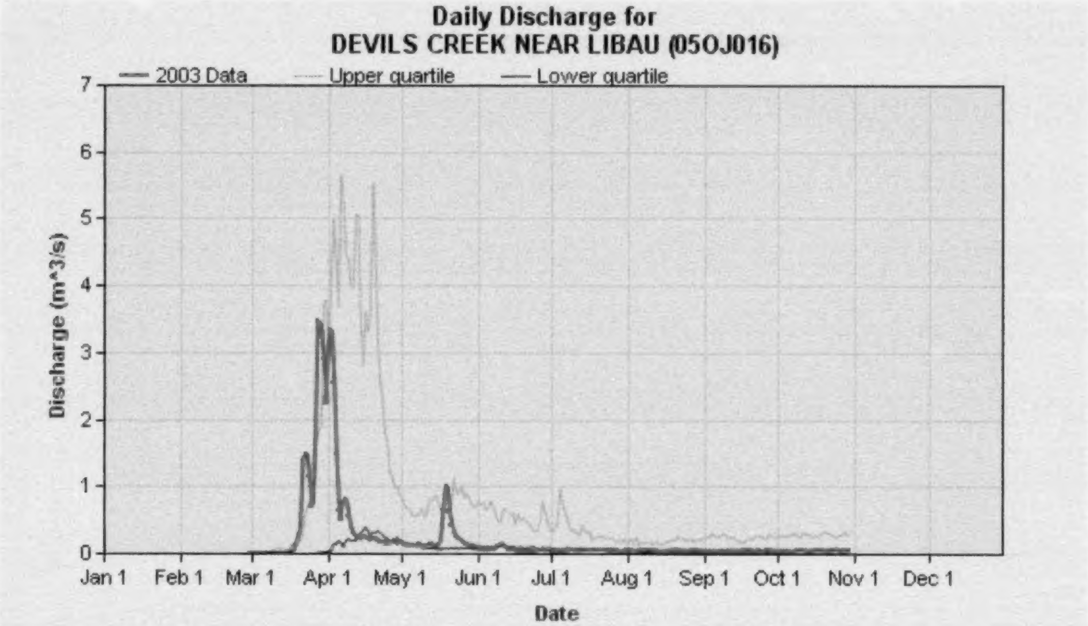


Figure 10: A comparison of 2003 flows with the historic upper and lower quartile daily discharge for Devils Creek near Libau (05OJ016). (Environment Canada. Water Survey of Canada. Archived Hydrometric Data)

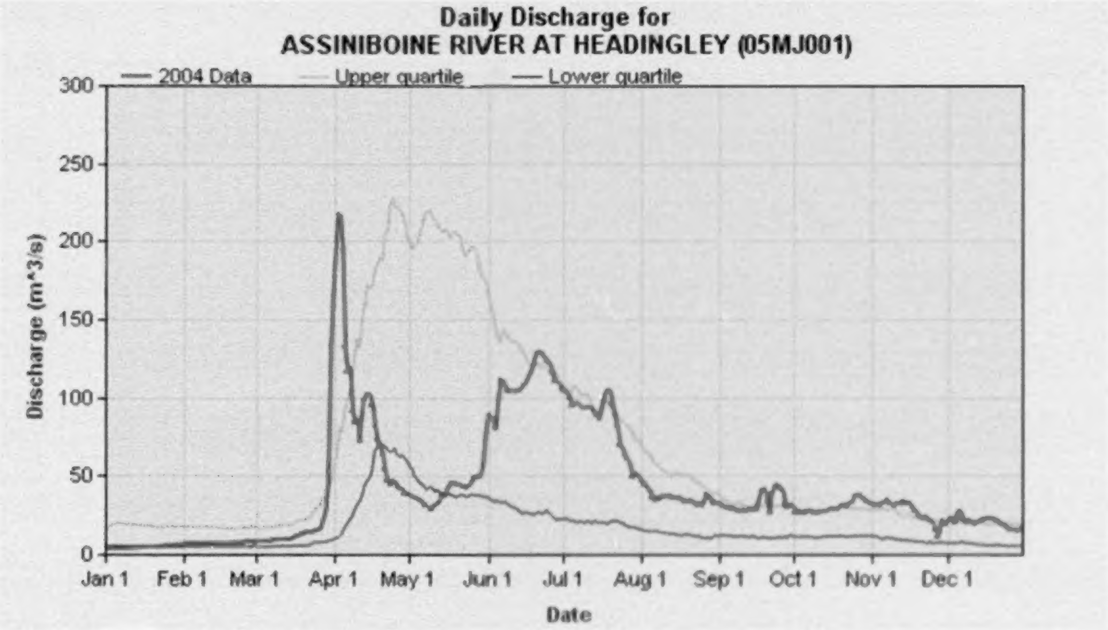
The spring of 2004 was cold and wet. Across the prairies, the period from May to August was the coldest in 57 years. Summer temperatures in Winnipeg were the coldest on record since 1872 (Environment Canada, Meteorological Services Canada, Archived Meteorological Data).

Spring flows in the Assiniboine River near Headingley were initially near the upper quartile of flows, which receded quickly but were followed by extensive rains beginning in May (Figure 11). Flows then increased and remained seasonally high for the remainder of the year.

The 2004 spring peak flow in Devils Creek was reached prior to April 1 and was well above the upper quartile of historical flows (Figure 11). Flows receded quickly until mid-May, when heavy rains resulted in extremely high seasonal flows in the early summer and the fall of 2004.

In 2005, spring runoff was well above normal and there were extremely wet conditions throughout the summer across the province, with significant overland flooding in some areas (Figure 12).

In 2006, the spring runoff was near normal but conditions over much of the province through the summer were very dry (Figure 13; Figure 14). Conditions ranged from abnormally dry in the south-east areas of the province to moderate drought conditions in west-central Manitoba.



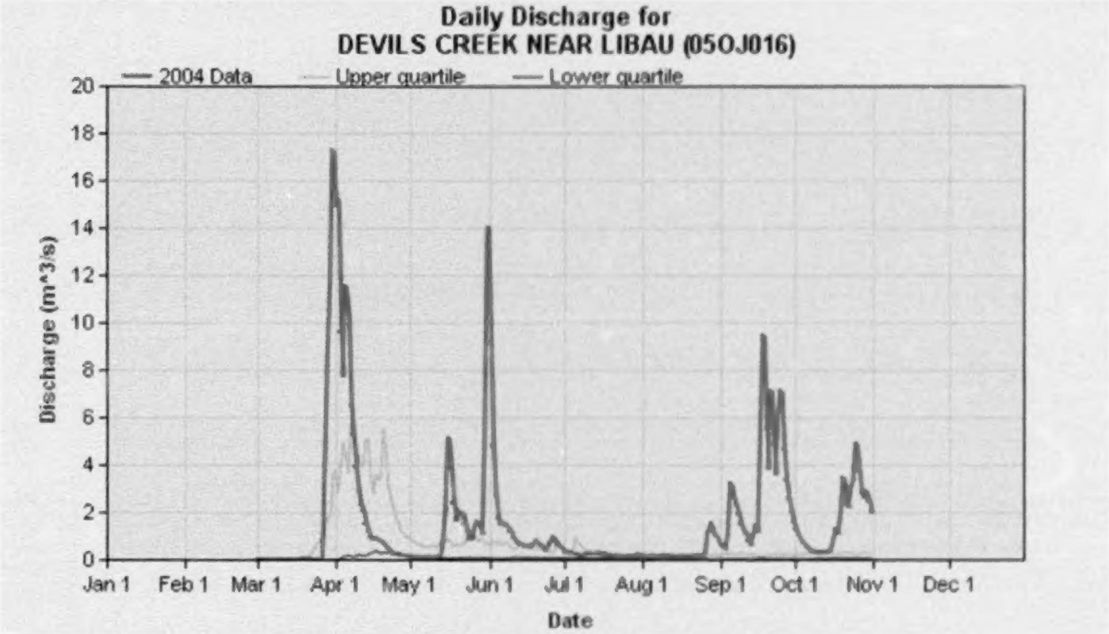


Figure 11: **A comparison of 2004 flows with the historic upper and lower quartile daily discharge for the Assiniboine River at Headingley (05MJ001) and at Devils Creek near Libau (05OJ016). (Environment Canada. Water Survey of Canada. Archived Hydrometric Data)**

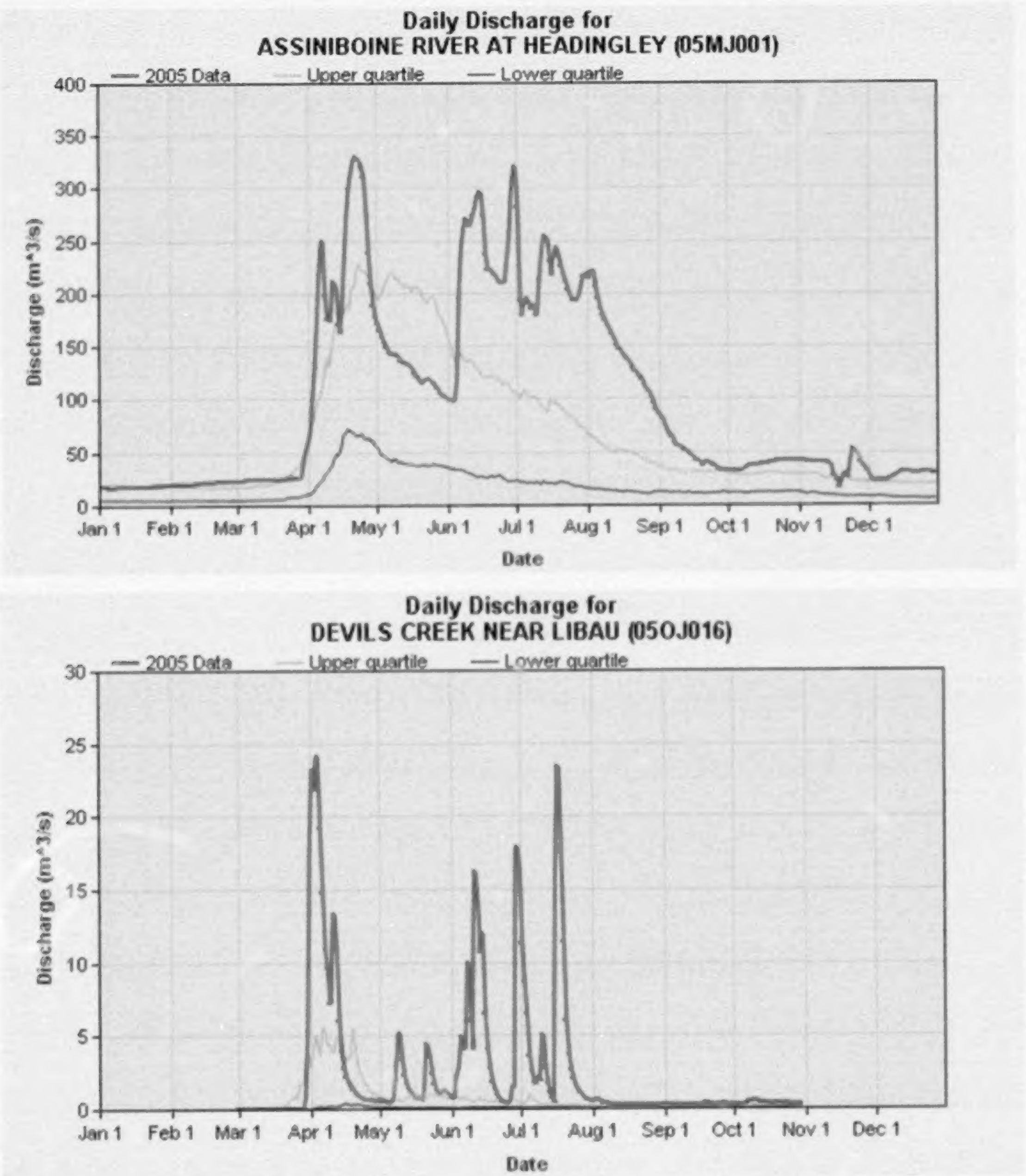
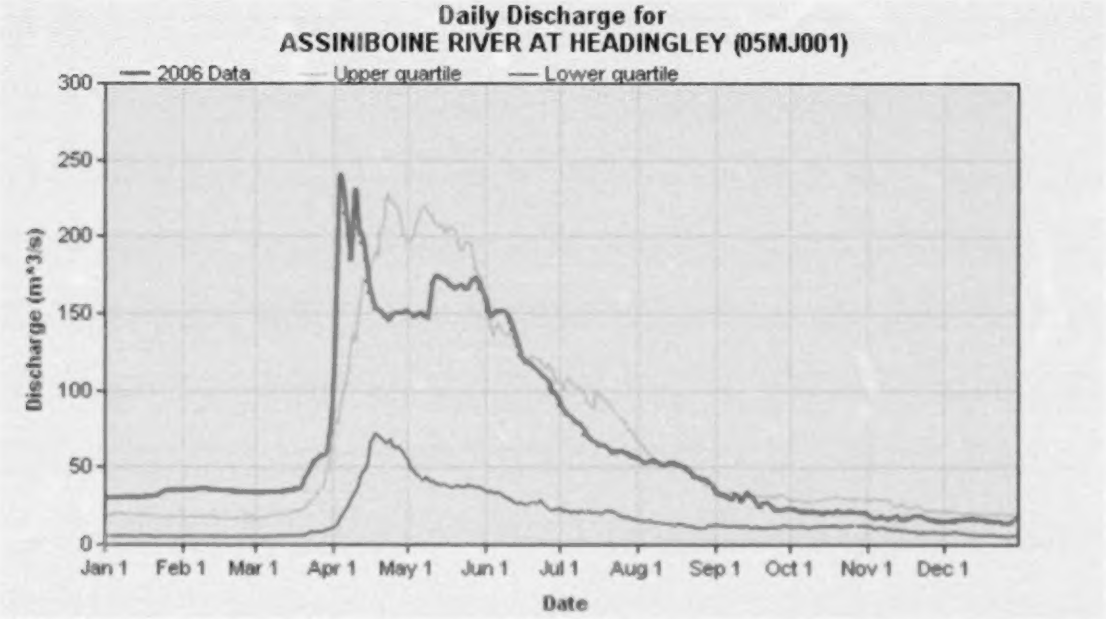


Figure 12: A comparison of 2005 flows with the historic upper and lower quartile daily discharge for the Assiniboine River at Headingley (05MJ001) and at Devils Creek near Libau (05OJ016). (Environment Canada. Water Survey of Canada. Archived Hydrometric Data)



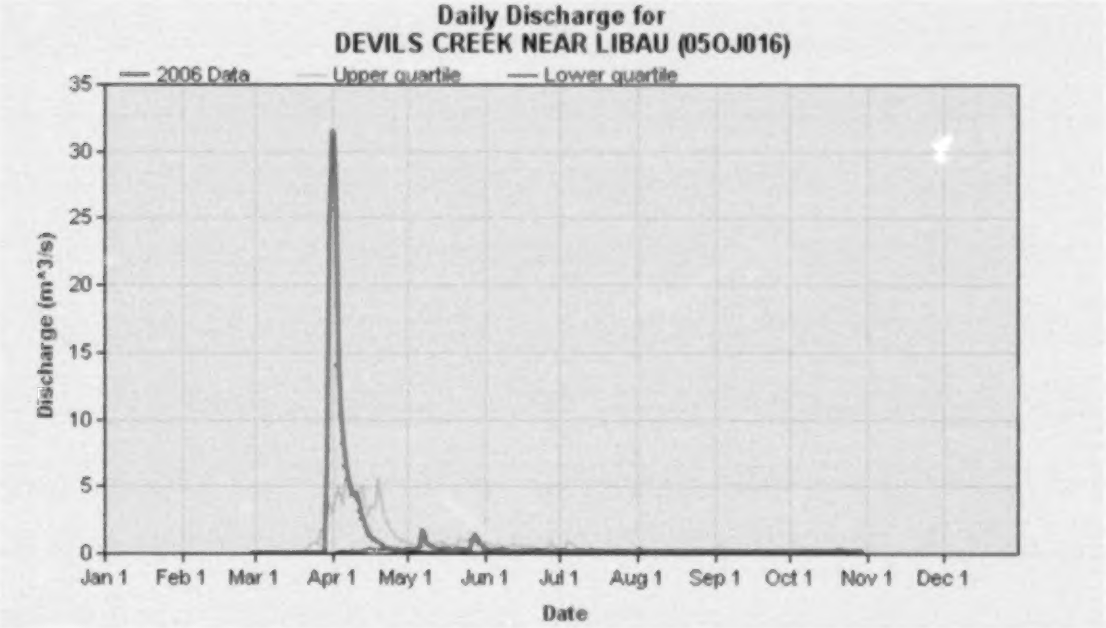


Figure 13: A comparison of 2006 flows with the historic upper and lower quartile daily discharge for the Assiniboine River at Headingley (05MJ001) and at Devils Creek near Libau (05OJ016). (Environment Canada. Water Survey of Canada. Archived Hydrometric Data)

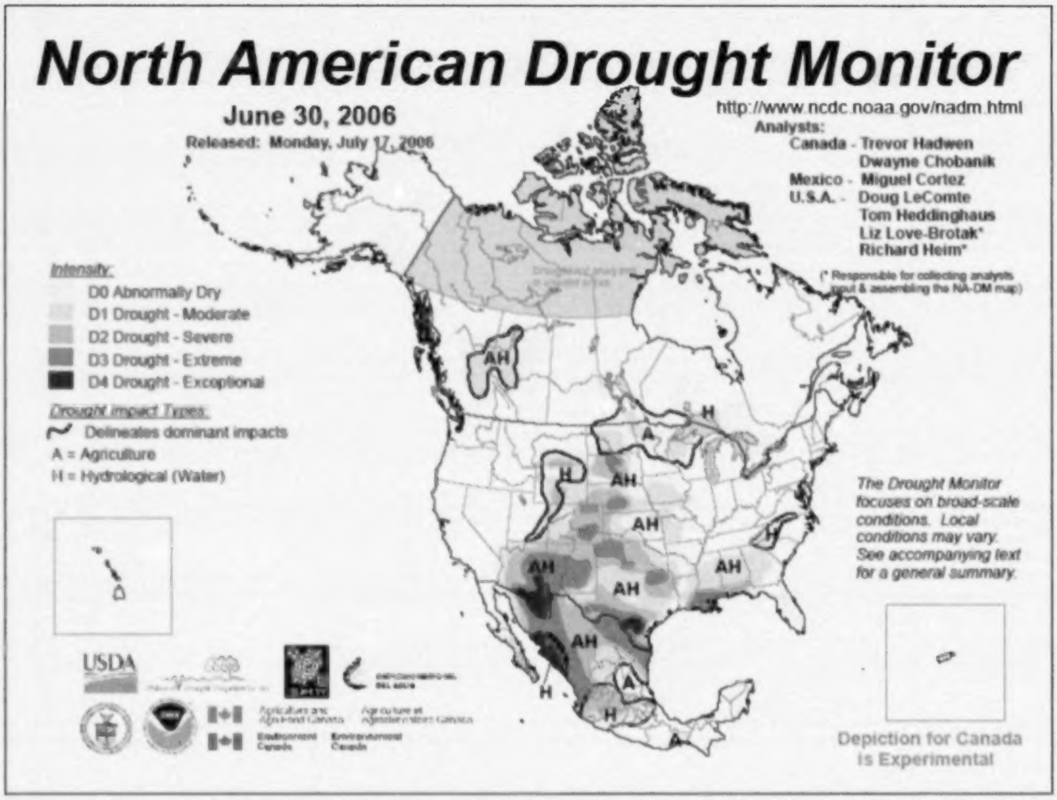

North American Drought Monitor
June 30, 2006
Released: Monday, July 17, 2006
http://www.ncdc.noaa.gov/nadm.html
Analysts:
Canada - Trevor Hadwen
Dwayne Chobanik
Mexico - Miguel Cortez
U.S.A. - Doug LeComte
Tom Heddinghaus
Liz Love-Brotak*
Richard Heim*
(* Responsible for collecting analysts input & assembling the NA-DM map)
Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional
Drought Impact Types:
Delineates dominant impacts
A = Agriculture
H = Hydrological (Water)
AH
H
A
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text for a general summary.
USDA
Depiction for Canada is Experimental

Figure 14: **The intensity and extent of drought conditions across North America on June 30, 2006. (National Oceanic and Atmospheric Administration. National Climate Data Center, Drought Severity Interpretation and Historic Climate Maps)**

4.2 SUMMARY OF SURVEYED SITES

A total of 2,371 sites were visited between the spring of 2002 and the late summer of 2006. A single crew surveyed 201 sites in 2002. In 2003, three crews visited a total of 687 sites. Four crews surveyed 888 sites in 2004. In 2005, three crews sampled 448 sites and in 2006, two crews sampled 147 sites.

A list of all sites showing the site number, the date sampled, the site name, geographic location, corresponding DES map number, DES stream order, and the corresponding NTS map tile number is provided in Appendix 1.

Table 3: A summary of all sites visited between 2002 and 2006. The sampling effort has been summarized by year, by sampling crew and by DES stream order.

Year	Crew	# of Sites	DES Stream Order							
			1st	2nd	3rd	4th	5th	6th	7th	8th
2002	D-02	201	3	31	99	45	22	0	0	1
2003	B-03	250	0	45	120	73	11	2	0	0
2003	D-03	170	1	45	75	37	11	1	0	0
2003	W-03	267	7	101	126	27	6	0	0	0
2004	B-04	288	3	67	108	74	32	4	0	0
2004	D-04	36	2	3	17	7	7	0	0	0
2004	W-04	301	3	161	108	18	7	4	0	0
2004	X-04	263	6	43	119	62	27	5	0	0
2005	D-05	27	1	8	7	2	9	0	0	0
2005	W-05	211	5	58	117	30	1	0	0	0
2005	X-05	210	2	30	153	23	2	0	0	0
2006	D-06	1	0	0	0	1	0	0	0	0
2006	W-06	146	4	36	66	21	11	4	4	0
Total		2,371	37	628	1,115	420	146	20	4	1

The following map shows the location of sampling sites surveyed between 2002 and 2006 (Figure 15).

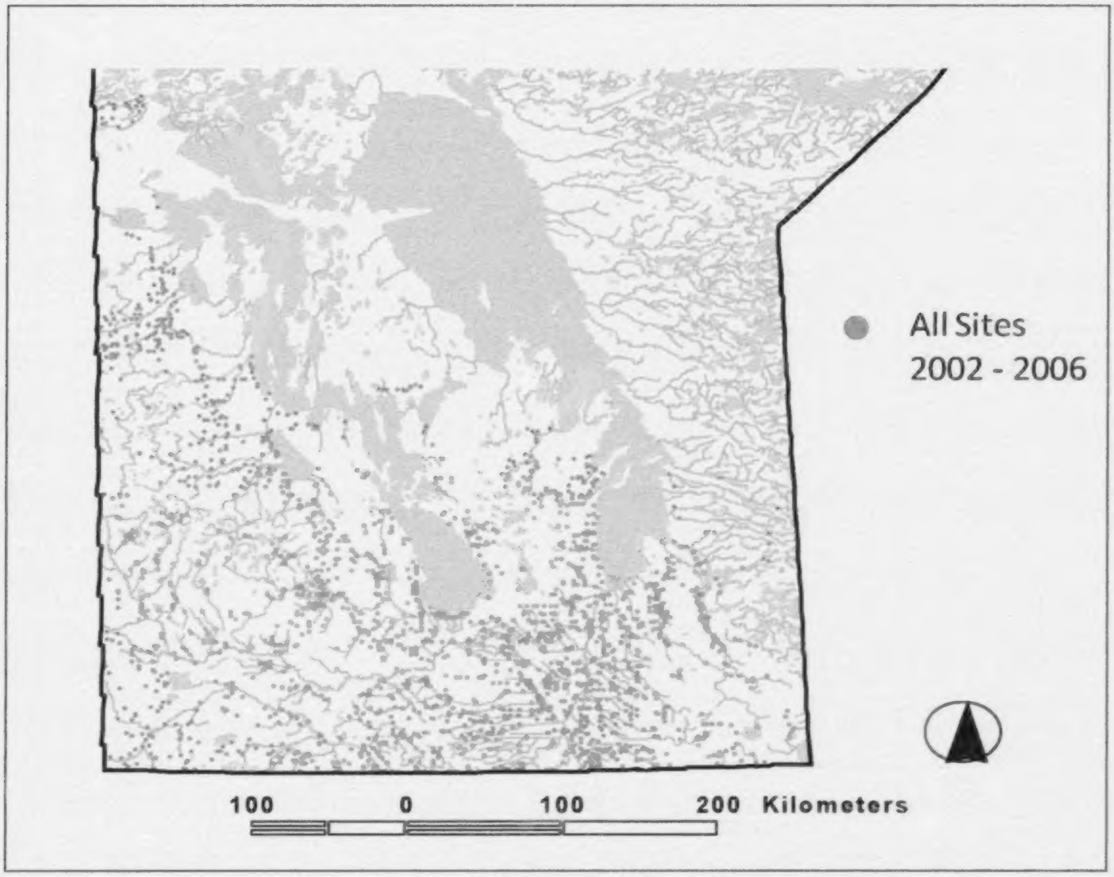


Figure 15: **Map showing the location of 2,371 sites visited from 2002 – 2006.**

4.3 HABITAT COMPLEXITY

Field crews used the definition of Simple versus Complex Habitat to classify the upstream and downstream habitat complexity at all 2,371 sites surveyed. The majority (1,217 or 51.3%) of sites surveyed were classified as Complex Habitat. Conditions were classified as Simple Habitat at 645 of 2,371 sites (39.9%). At 209 sites (8.8%) the upstream habitat complexity varied from the downstream habitat complexity. These sites were located at distinct changes in channel type and riparian conditions, or were located in transitional zones between complex and simple habitat.

A map of the distribution of sites by habitat complexity is shown in Figure 16.

Figure 17 summarizes the percent distribution of all sites surveyed based on their Habitat Complexity (Complex, Simple or Transitional) and their DES stream order.

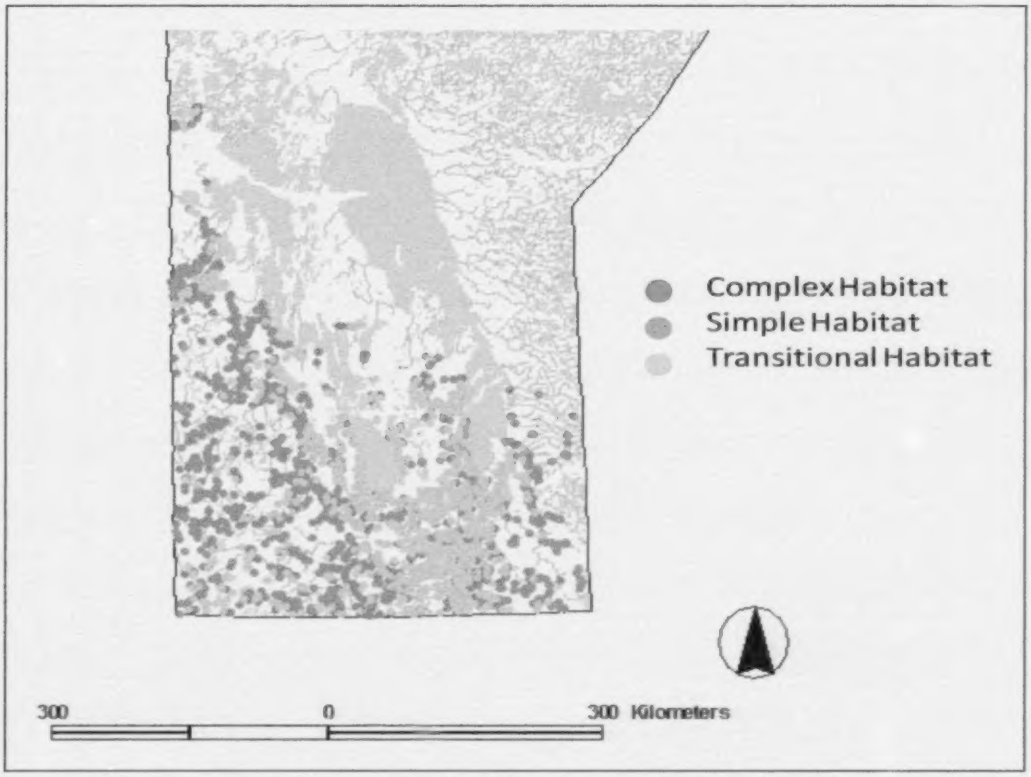

Complex Habitat
Simple Habitat
Transitional Habitat
300
0
300 Kilometers

Figure 16: Map showing the distribution of all sites by Habitat Complexity.

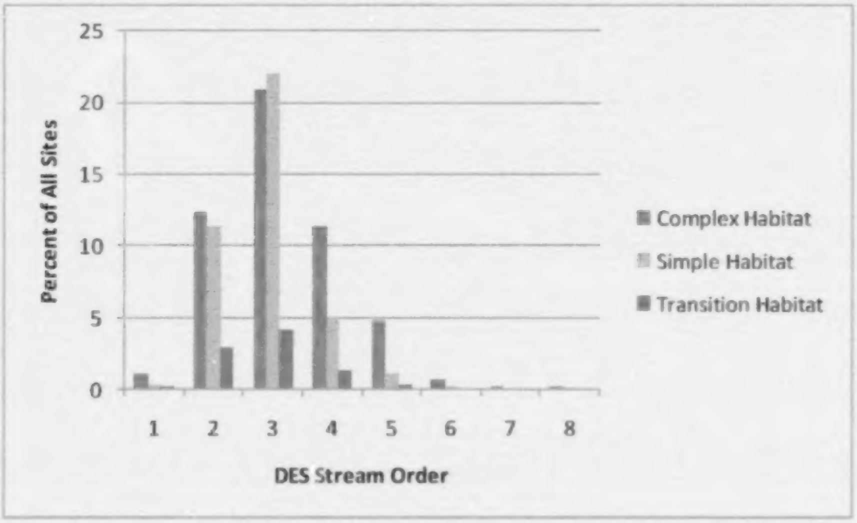


Figure 17: Percent distribution of Habitat Complexity by DES stream order for all sites surveyed (n=2,371).

A list of all sites and their upstream and downstream habitat complexity decision is included in Appendix 2.

4.4 HABITAT ASSESSMENT SCORES

Along with the application of the definition of Simple Habitat to determine Habitat Complexity at all sites surveyed, field crews also assessed and scored twelve instream and riparian habitat parameters at 1,141 of the 1,248 sites where fishing effort was applied. The Habitat Assessment was only completed at those reaches where field crews felt they had spent sufficient time and effort in the sampling of the reach to be familiar with the instream and riparian habitat conditions to be assessed. A list of the sites assessed and the corresponding individual Parameter and Habitat Assessment Scores is included in Appendix 3.

The Habitat Assessment Scores ranged from a high of 225, to a low score of 42, with a median score of 128. Of all sites where the Habitat Assessment was completed, the majority (50.3%) were rated as Sub-Optimal Habitat, followed by Marginal Habitat (41.7%), Optimal Habitat (7%) and Poor Habitat (less than 1%). (Figure18).

At those sites where the Habitat Complexity was determined to be Complex, the Habitat Assessment Scores ranged from a high of 225, to a low of 60, with a median score of 146. At sites deemed to be Simple Habitat, the Total Scores ranged from a high of 194, to a low of 42, with a median score of 106. At sites where the upstream habitat complexity varied from the downstream habitat complexity, the Total Scores ranged from a high of 191, to a low of 64, with a median score of 116 (Figure 19). Figure 20 provides a map displaying the Habitat Condition category derived from the Total Habitat Assessment Score at all sites assessed.

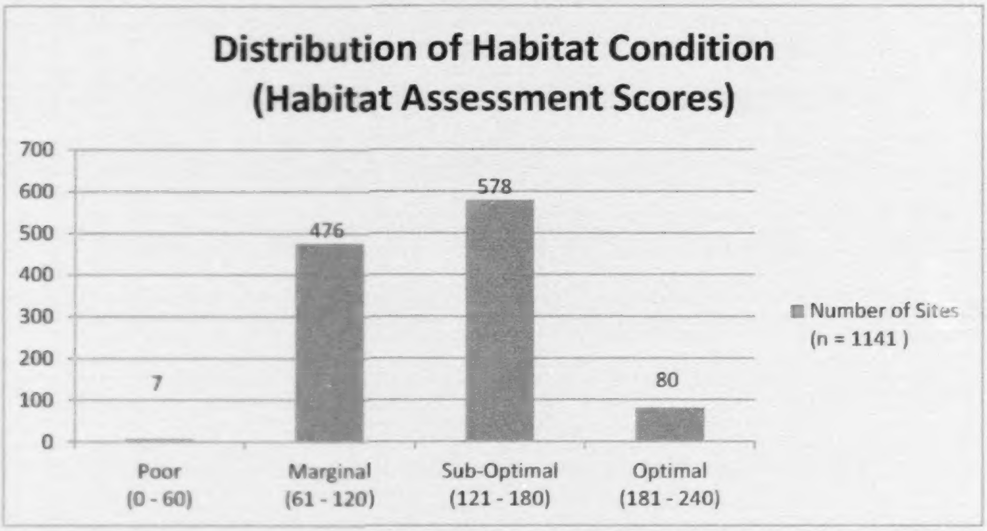


Figure 18: **Chart showing the distribution of sites across the Habitat Condition scale as determined by the Habitat Assessment Score at each site.**

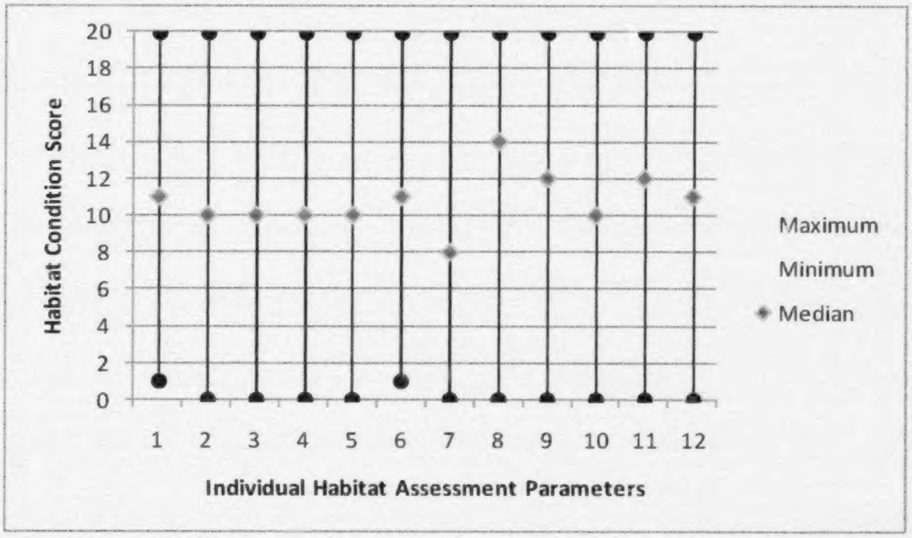


Figure 19: Chart showing the maximum, minimum and median individual habitat parameter scores for each of the twelve parameters assessed to derive the Total Score.

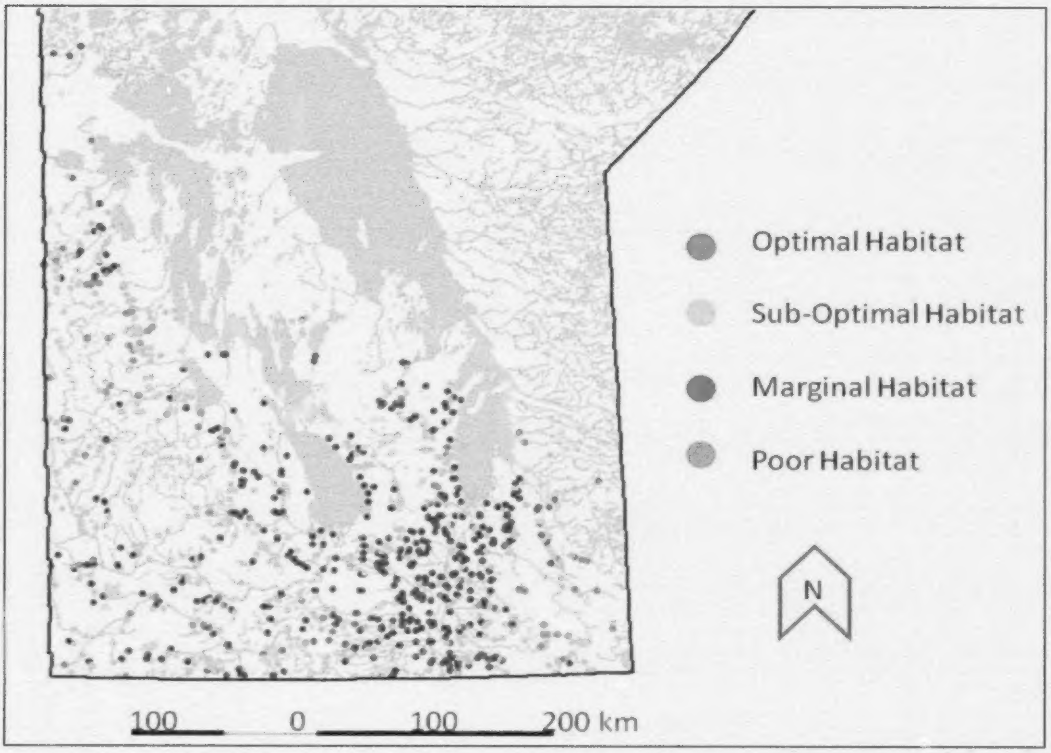

Optimal Habitat
Sub-Optimal Habitat
Marginal Habitat
Poor Habitat
N
100
0
100
200 km

Figure 20: Map displaying the Habitat Condition category derived from the Habitat Assessment Score at all sites assessed.

4.5 FISHING EFFORT

Fishing effort was applied on 1,354 occasions with sampling of the fish community being carried out at 1,248 sites. A single gear type was employed at 1,147 of these sites. Sampling effort using two gear types was applied at 96 sites, and three gear types were used to sample the fish community at 5 sites. At 1,123 sites, no fishing effort was applied. These sites were either too dry to fish or were not safe to wade. Some sites were not fished for reasons including nearby aerial crop spraying, mosquito larvaecide application, extreme weather conditions, and property owner denied access. The majority of fishing effort (58%) was expended in Complex Habitat, with 33% of fishing effort plied in Simple Habitat and the balance (9%) expended in areas of transition between Complex and Simple Habitat.

Backpack electrofishing gear was used on 1,018 occasions. Beach seines were used 155 times. Dip-nets were used on 41 occasions and kick samplers were used on 42 occasions. Larval drift traps were deployed 36 times. Field crew observations were made at 59 sites and anecdotal evidence was utilized at two locations. An electrofishing boat was used at one site. Table 4 provides a summary of the number of sites and the number of occasions fishing effort was applied, summarized by year, by sampling crew and by DES stream order.

Table 4: The number of sites and the number of occasions fishing effort was applied, summarized by year, by sampling crew and by DES stream order.

Year	Crew	# of Sites	DES Stream Order							Total Occasions
			1st	2nd	3rd	4th	5th	6th	7th	
2002	D-02	114	0	14	63	31	17	0	0	125
2003	B-03	111	0	15	43	45	10	2	0	115
2003	D-03	86	0	16	33	30	11	1	0	91
2003	W-03	90	2	26	51	12	1	0	0	92
2004	B-04	142	0	14	57	54	33	2	0	160
2004	D-04	17	0	1	10	6	0	0	0	17
2004	W-04	139	3	62	77	10	4	2	0	158
2004	X-04	164	4	27	77	47	21	2	0	178
2005	D-05	19	0	4	6	3	8	0	0	21
2005	W-05	138	1	40	85	24	0	0	0	150
2005	X-05	142	1	19	115	23	3	0	0	161
2006	D-06	1	0	0	0	1	0	0	0	1
2006	W-06	85	1	17	36	16	7	4	4	85
Total		1248	12	255	653	302	115	13	4	1354

4.6 FISH COLLECTIONS

Over the course of the inventory, fifty-three fish species representing fifteen taxonomic families and comprised of nineteen Indicator Species and thirty-four Non-Indicator Species were collected. As well, a small number of hybrid minnows, unidentified post-larval minnows, unidentified post-larval suckers, and unidentified sucker and Percid family eggs were also collected.

Indicator Species were collected on 741 occasions. Non-Indicator species were collected 2,994 times. The application of fishing effort resulted in No Catch on 281 occasions. In total, 4,016 individual species records and more than 40,000 individual fish were collected from 1,248 sites. The highest number of species collected at one location (X-04-253) was nineteen. This site was located immediately upstream from the Red River.

The following maps provide the locations for all Indicator Species collections (Figure 21), Non-Indicator Species collections (Figure 22) and sites where fishing effort resulted in No Catch (Figure 23).

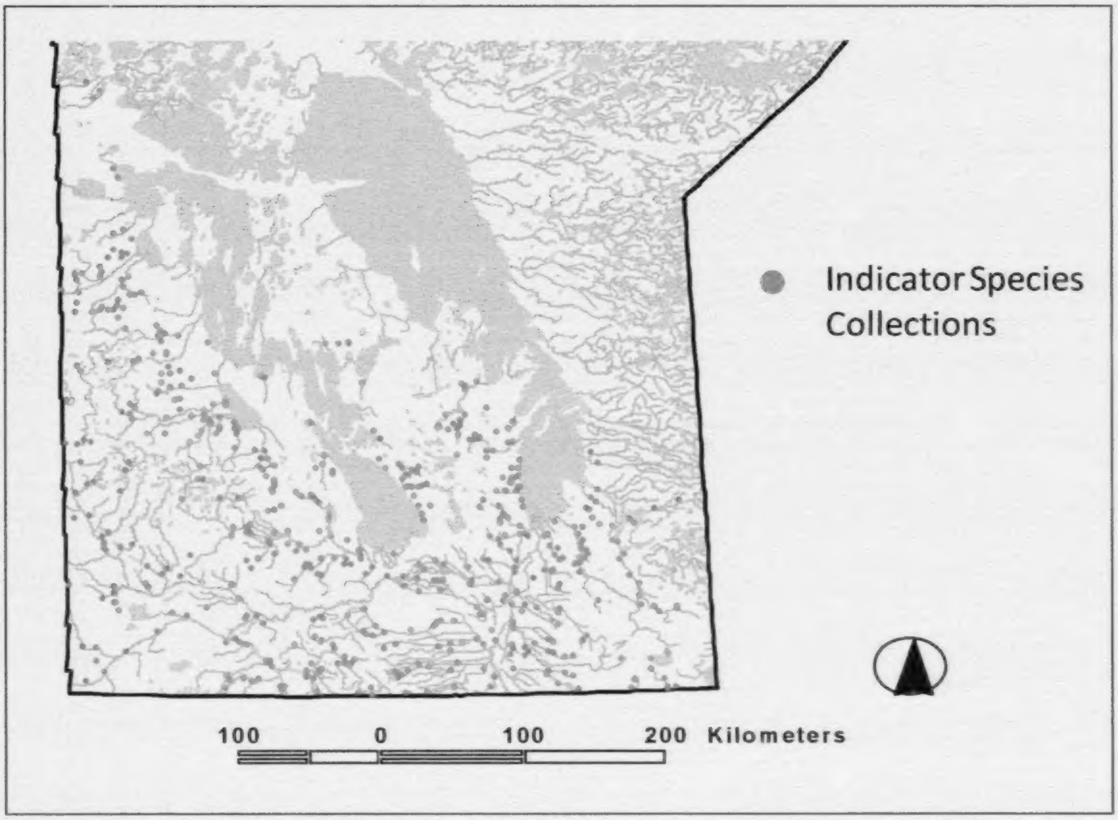


Figure 21: **Map showing the location of 558 sites where Indicator Species were collected.**

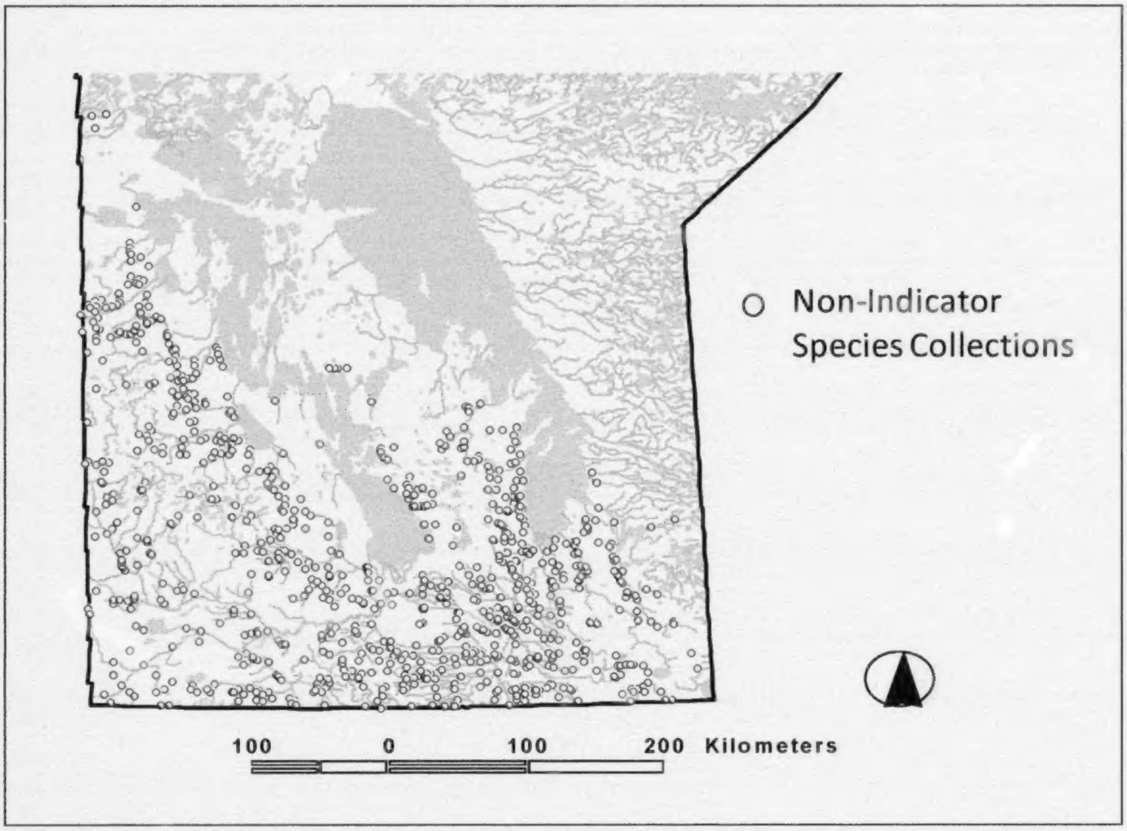

○ Non-Indicator Species Collections
100
0
100
200 Kilometers

Figure 22: Map showing the locations of 916 sites where Non-Indicator Species were collected.

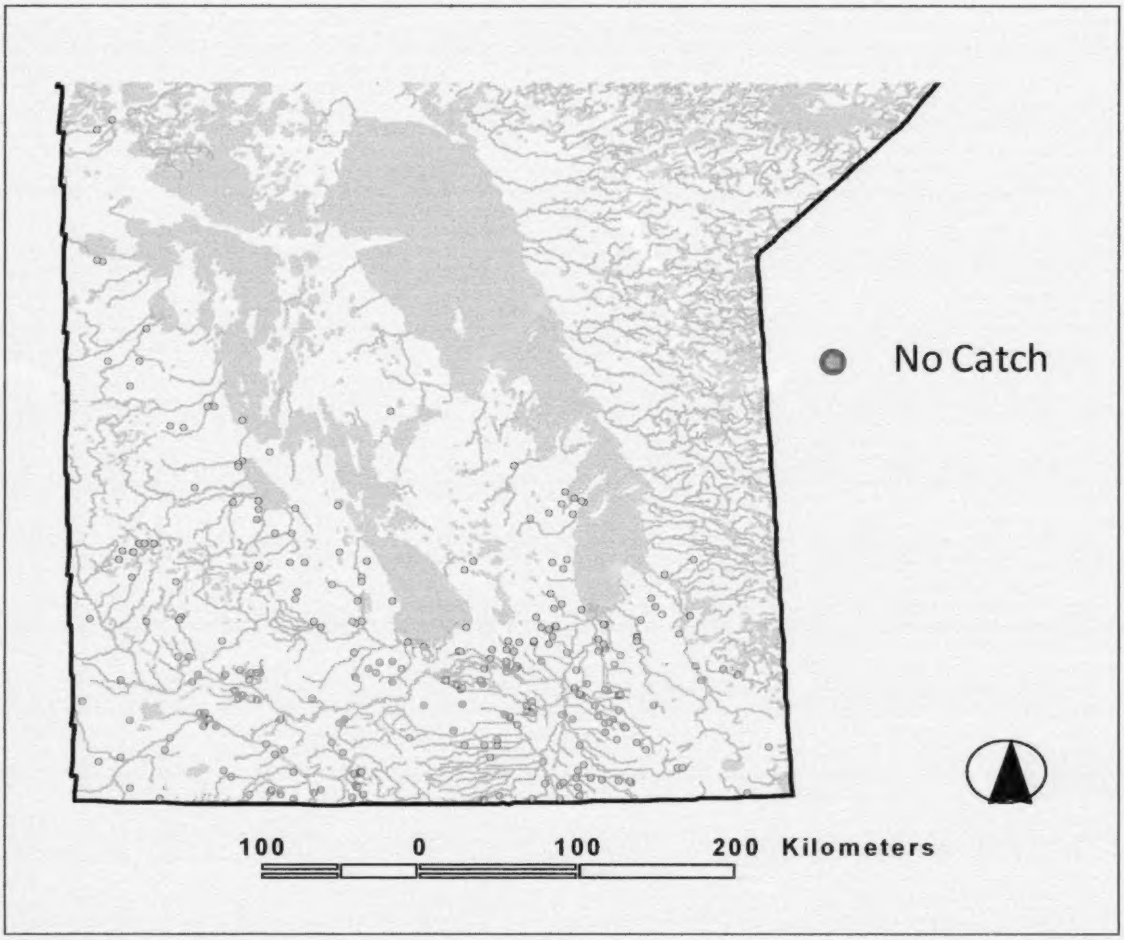


Figure 23: **Map showing the locations of 271 sites where fishing effort resulted in No Catch.**

The most frequently collected fishes included Fathead Minnow (577 collections), Brook Stickleback (554 collections) and White Sucker (407 collections).

Chestnut Lamprey, Quillback, Blackchin Shiner, Mimic Shiner, Goldeye, and Channel Catfish were the least frequently collected Indicator Species; each of these species was collected at only one location. White Sucker was the most frequently collected Indicator Species from all stream orders sampled.

Table 5 provides the list of all fishes collected, organized by taxonomic family and then summarized by DES stream order and by Habitat Complexity (Complex, Simple or Transition). This table also includes unidentified suckers, unidentified minnows, hybrid minnows, unidentified eggs, and no catch in the summary.

Table 5: List of the species collected organized by taxonomic family and summarized by DES stream order and by Habitat Complexity.

FAMILY	# of Collections	DES Stream Order							Habitat Complexity		
Common Name		1	2	3	4	5	6	7	Complex	Simple	Transition
PETROMYZONTIDAE - LAMPREYS											
Chestnut Lamprey	1				1				1	0	0
HIODONTIDAE - GOLDEYE and MOONEYE											
Goldeye	1				1				1	0	0
CYPRINIDAE- MINNOWS and CARP											
Spotfin Shiner	4			1		3			2	2	0
Common Carp	43		9	20	4	9	1		17	18	8
Brassy Minnow	31		5	12	9	4	1		27	3	1
Common Shiner	133	1	10	46	44	27	3	2	115	12	6
Pearl Dace	92		23	40	22	7			70	15	7
Hornyhead Chub	5			5					2	0	3
Golden Shiner	3			1	1	1			3	0	0
Emerald Shiner	21	1	4	10	2	3	1		15	2	4
River Shiner	4			1	1	1	1		4	0	0
Bigmouth Shiner	12			1	6	3	2		12	0	0
Blackchin Shiner	1				1				0	1	0
Blacknose Shiner	28		4	12	8	4			22	5	1
Spottail Shiner	17		5	7	2	2	1		6	9	2
Sand Shiner	36	1		7	10	9	5	4	27	5	4
Mimic Shiner	1		1						1	0	0
Northern Redbelly Dace	77		27	32	12	6			61	8	8
Finescale Dace	148	1	39	69	30	9			117	21	10
Fathead Minnow	577	3	93	287	133	52	5	4	346	184	47
Longnose Dace	93		7	26	34	18	4	4	85	6	2
Western Blacknose Dace	198	2	16	78	69	30	3		172	20	6
Creek Chub	212		24	78	74	30	5	1	178	26	8
Hybrid minnows	5		2	1	2				5	0	0
Unidentified minnows	16		2	6	7	1			10	4	2
CATOSTOMIDAE - SUCKERS											
Quillback	1						1		1	0	0
White Sucker	407	2	38	178	121	58	6	4	282	96	29
Bigmouth Buffalo	4		1	1	1	1			1	1	2
Silver Redhorse	13			4	3	4	2		10	3	0
Shorthead Redhorse	5					1	2	2	5	0	0
Eggs (Catostomidae)	9			5	1	3			6	2	1
Unidentified Sucker	8		3	2		3			7	1	0

Table 5: **List of the species collected organized by taxonomic family and summarized by DES stream order and by Habitat Complexity.**

FAMILY	# of Collections	DES Stream Order							Habitat Complexity		
Common Name		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Complex**	**Simple**	**Transition**
ICTALURIDAE - FRESHWATER CATFISHES											
Black Bullhead	61		7	19	19	12	1	3	35	24	2
Channel Catfish	1				1				1	0	0
Stonecat	2		1					1	2	0	0
Tadpole Madtom	11		1	1		6	2	1	8	3	0
ESOCIDAE - PIKE and MUSKELLUNGE											
Northern Pike	182		33	78	47	19	3	2	97	65	20
UMBRIDAE - MUDMINNOWS											
Central Mudminnow	259		1	58	152	43	5		141	87	31
SALMONIDAE - WHITEFISH, CHAR, TROUT and SALMON											
Rainbow Trout	2			1	1				2	0	0
Brown Trout	2				2				2	0	0
Brook Trout	6			3	2	1			6	0	0
PERCOPSIDAE - TROUTPERCHES											
Troutperch	15			2	6	3	3	1	14	0	1
GADIDAE - CODFISHES											
Burbot	20	1	1	7	4	5	1	1	16	2	2
GASTEROSTEIDAE - STICKLEBACKS											
Brook Stickleback	554	7	119	286	116	26			336	165	53
COTTIDAE - SCULPINS											
Mottled Sculpin	2			1	1				2	0	0
CENTRARCHIDAE - BASS, CRAPPIES and SUNFISHES											
Rock Bass	11			2	2	5	1	1	9	1	1
Smallmouth Bass	2				2				2	0	0
Black Crappie	5				3	2			4	0	1
PERCIDAE - DARTERS, PERCH, SAUGER and WALLEYE											
Iowa Darter	55		15	22	10	8			43	8	4
Johnny Darter	189	1	21	67	53	37	7	3	165	17	7
Yellow Perch	43		9	15	10	7	2		25	13	5
Logperch	11		1	3	3	3	1		8	3	0
Blackside Darter	65		8	16	16	18	4	3	60	4	1
River Darter	12		1	1	2	7	1		12	0	0
Sauger	3				1	2			3	0	0
Walleye	13		3	2	4	3		1	8	2	3
Eggs (Percidae)	1					1			1	0	0

Table 5: List of the species collected organized by taxonomic family and summarized by DES stream order and by Habitat Complexity.

FAMILY	# of Collections	DES Stream Order							Habitat Complexity		
Common Name		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Complex**	**Simple**	**Transition**
SCIAENIDAE - DRUMS											
Freshwater Drum	2			1			1		0	2	0
OTHER											
No Catch	281	5	60	145	56	13	2		136	122	23
Total	4016	25	594	1660	1112	510	77	38	2749	962	305

Giving consideration to the Habitat Type Decision Flowchart and the status of fish species collected, the most frequent collection and habitat type was Type C – Complex Habitat with Non-Indicator Species (52.9%), followed by Type D – Simple Habitat with Non-Indicator Species (16.2%), Type A – Complex Habitat with Indicator Species (12.2%) and Type B – Simple Habitat with Indicator Species (4.7%). Fishing effort in Complex Habitat, and fishing effort in Simple Habitat that resulted in No Catch occurred in 3.4% and 3.0% of all collections, respectively. Fishing effort in transitional habitat accounted for the balance of collections (7.6%).

Figures 24 to 26 provide the composition of Indicator Species collections summarized by DES stream order.

Figures 27 to 31 provide the composition of Non-Indicator Species collections summarized by DES stream order. Brook Stickleback was the most frequently collected Non-Indicator Species in lower order streams (1-3). No Brook Stickleback were collected from streams with a DES stream order higher than 5.

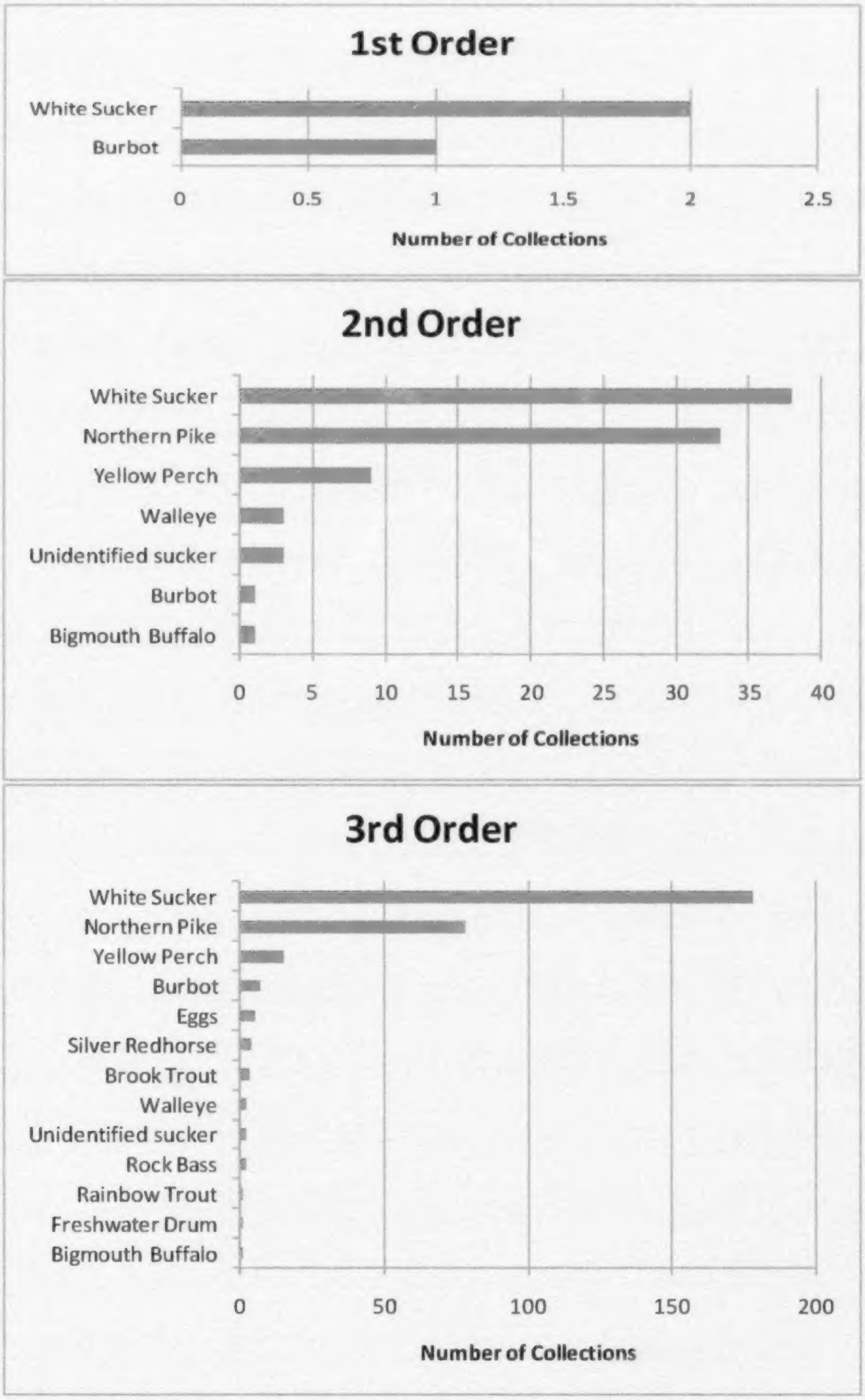
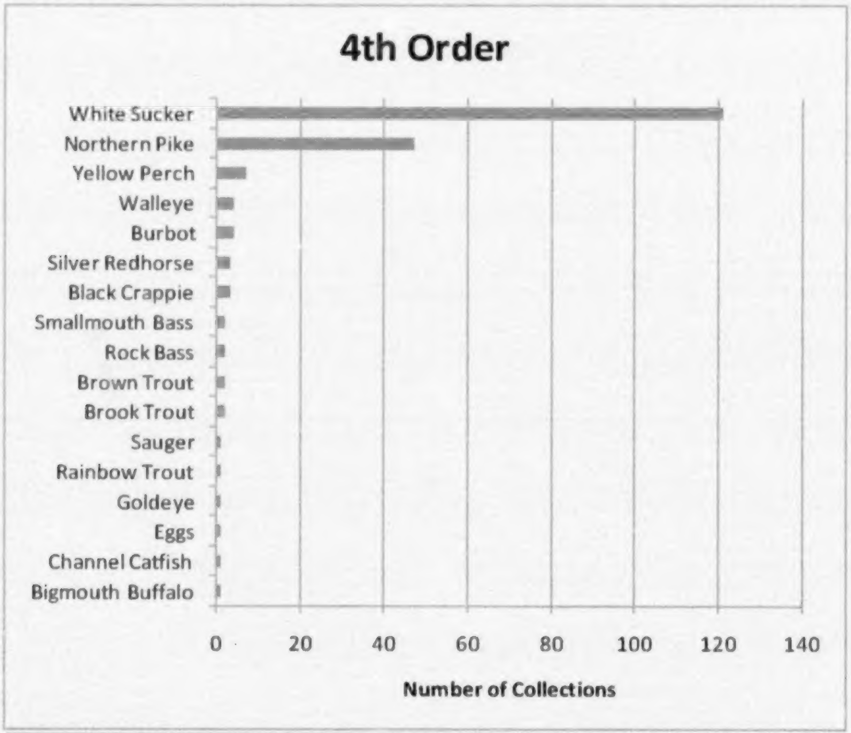


Figure 24: Showing the composition of Indicator Species collections summarized for DES stream orders 1-3.



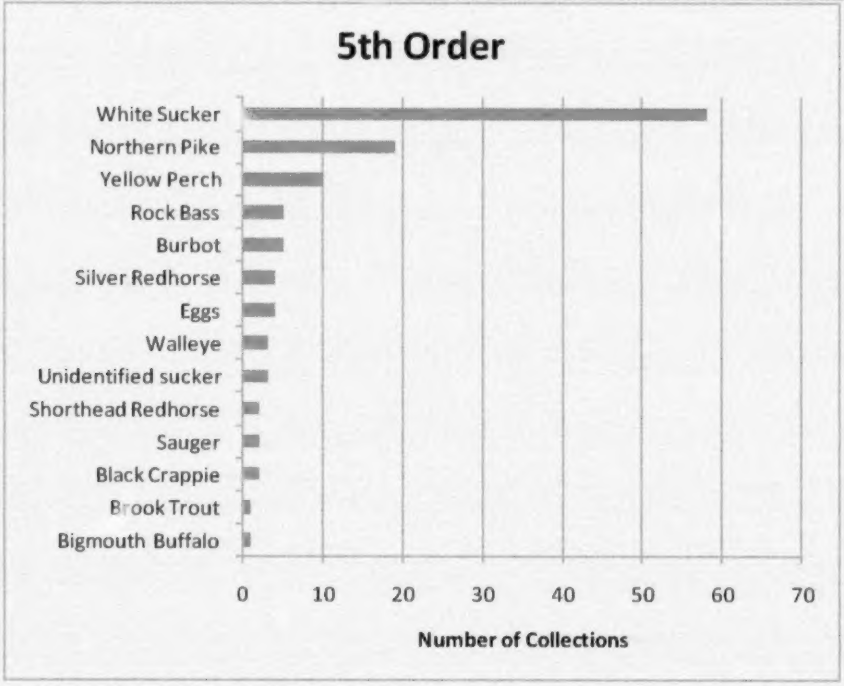


Figure 25: **Showing the composition of Indicator Species collections summarized for DES stream orders 4 and 5.**

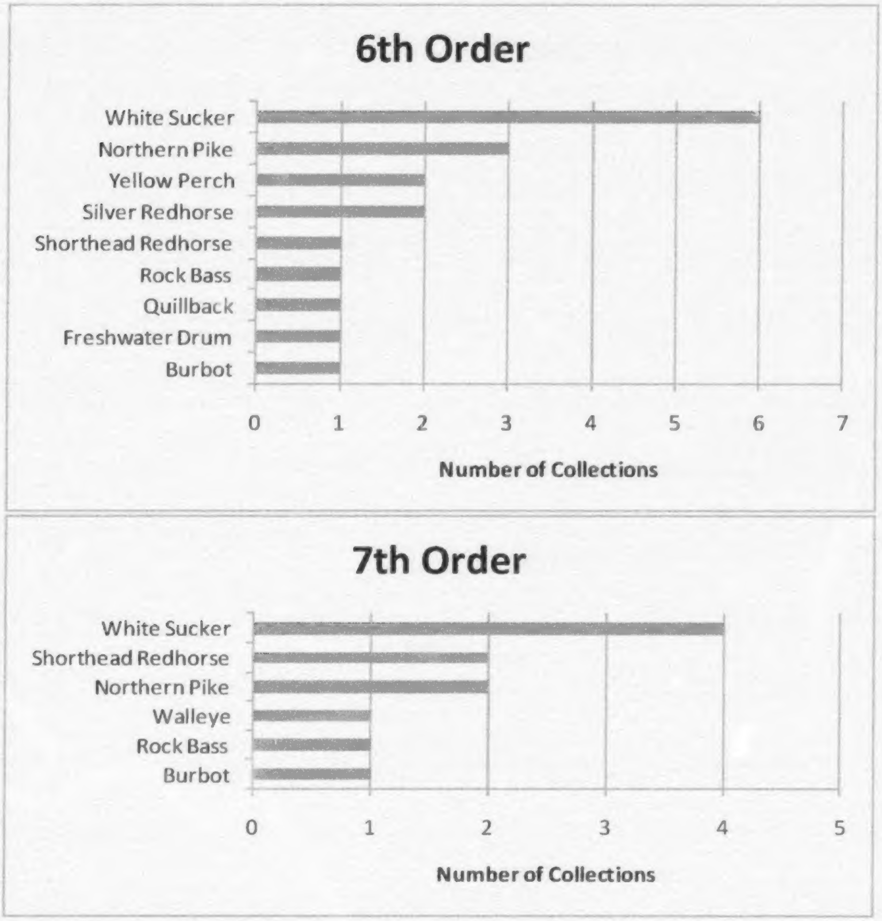
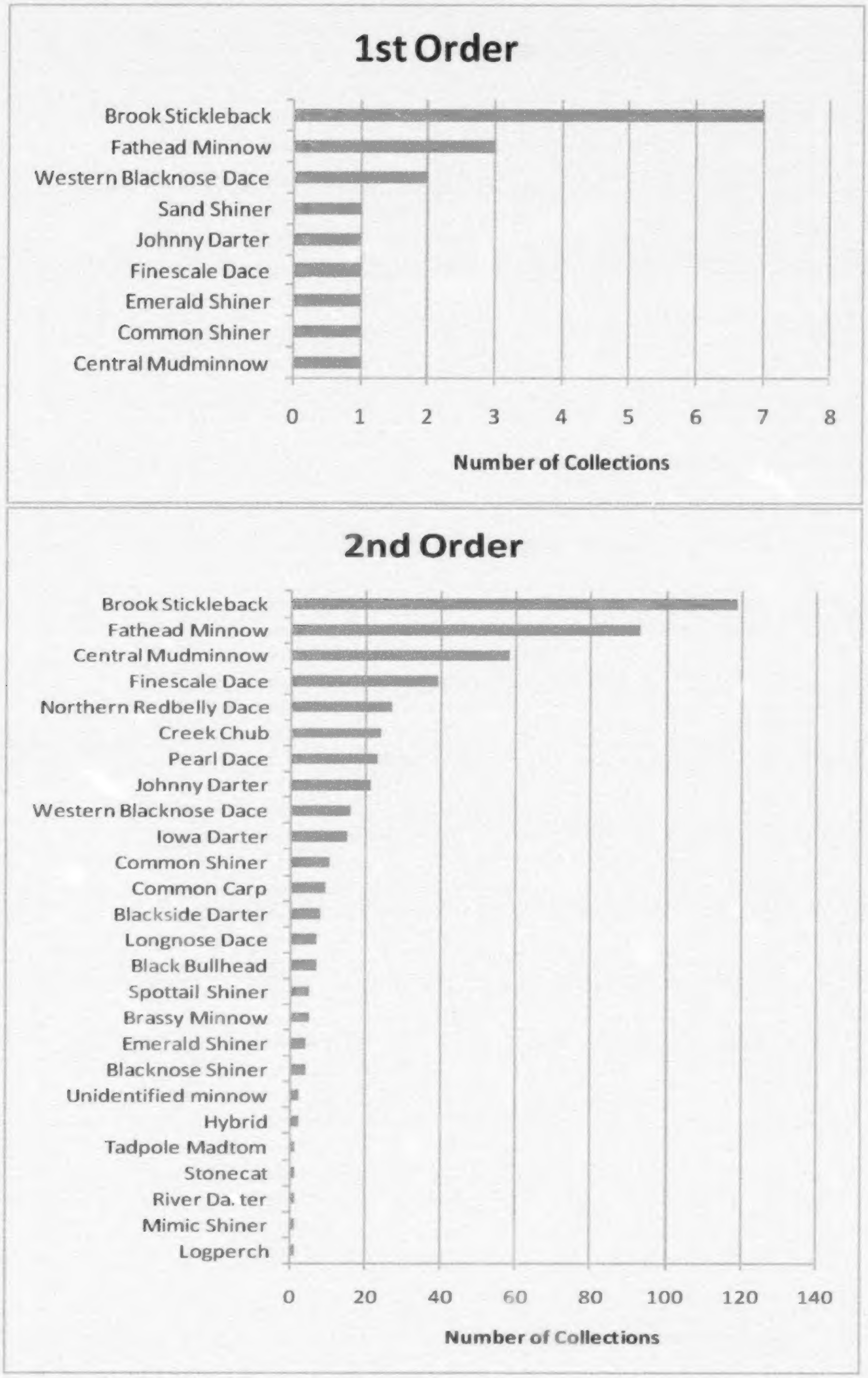


Figure 26: **Showing the composition of Indicator Species collections summarized for DES stream orders 6 and 7.**

Figure 32 shows the distribution of fishing effort when categorized by habitat type (Complex Habitat, Simple Habitat and Transitional Habitat) and the percentage of each fish capture type (Indicator Species, Non-Indicator Species,and No Catch results) collected from each habitat type.

Figure 33 shows the percentage of Indicator Species collections, Non-Indicator Species collections and No catch results when categorized by Habitat Type.

Figures 34 to 91 provide a summary for each fish species collected with a map showing the number (n) and location of collection sites; maximum, minimum and median scores for individual habitat parameters and the total Habitat Assessment Scores; and the percent of catch by DES stream order. Sites that overlap or are in close proximity may not be displayed as individual locations at the map scale used.


1st Order

2nd Order

Figure 27: **Showing the composition of Non-Indicator Species collections summarized for DES stream orders 1 and 2.**

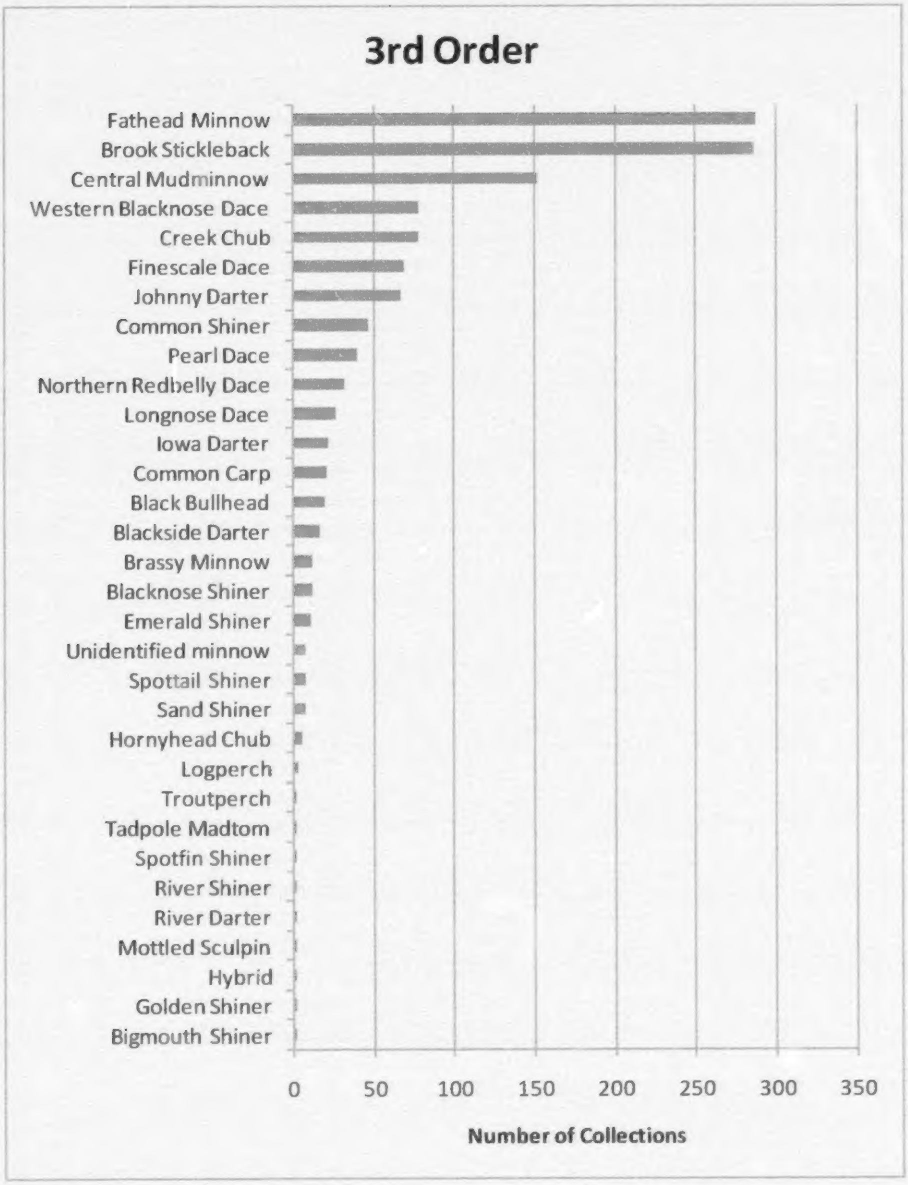


Figure 28: Showing the composition of Non-Indicator Species collections summarized for DES stream order 3.

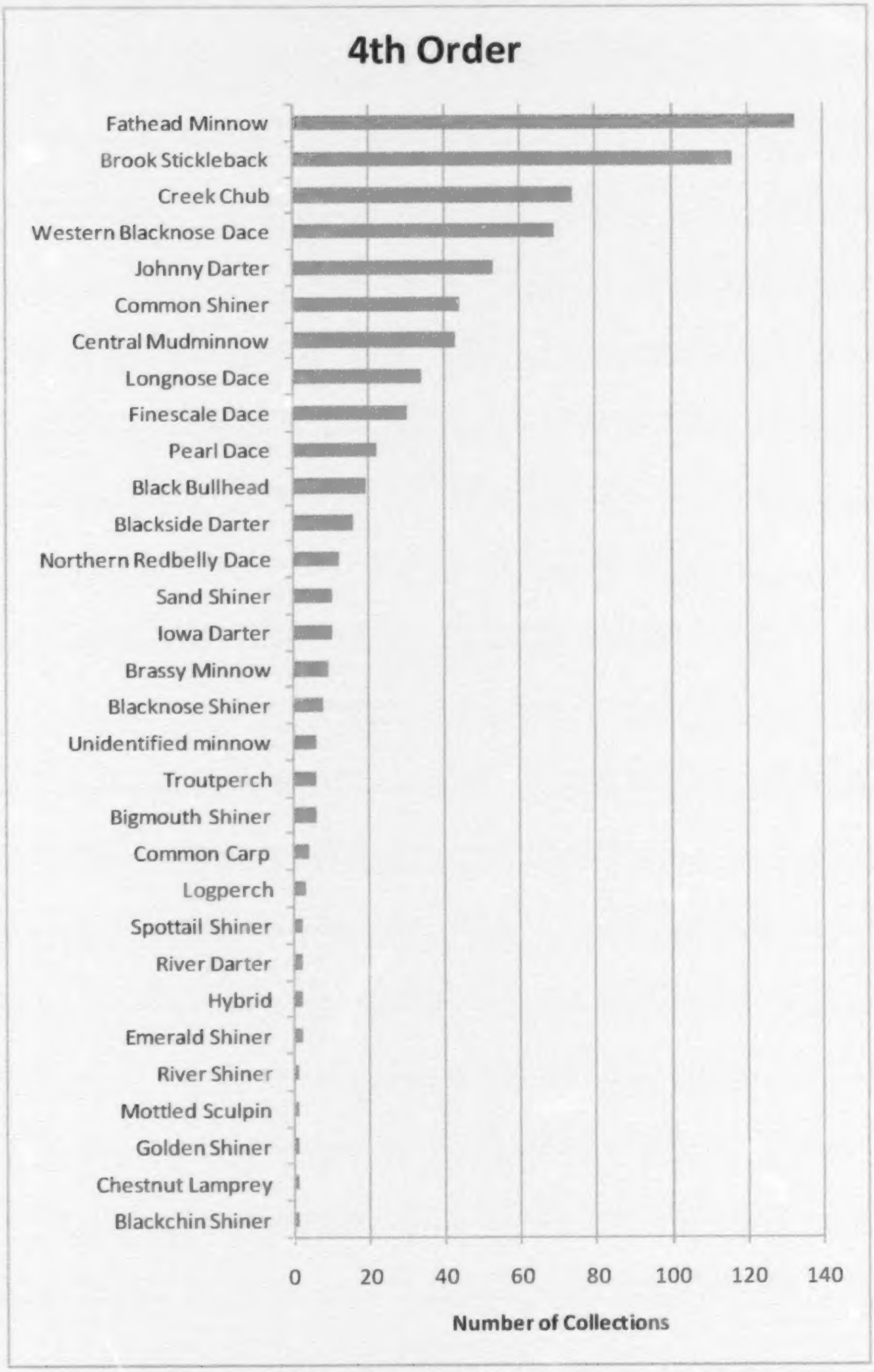


Figure 29: **Showing the composition of Non-Indicator Species collections summarized for DES stream order 4.**

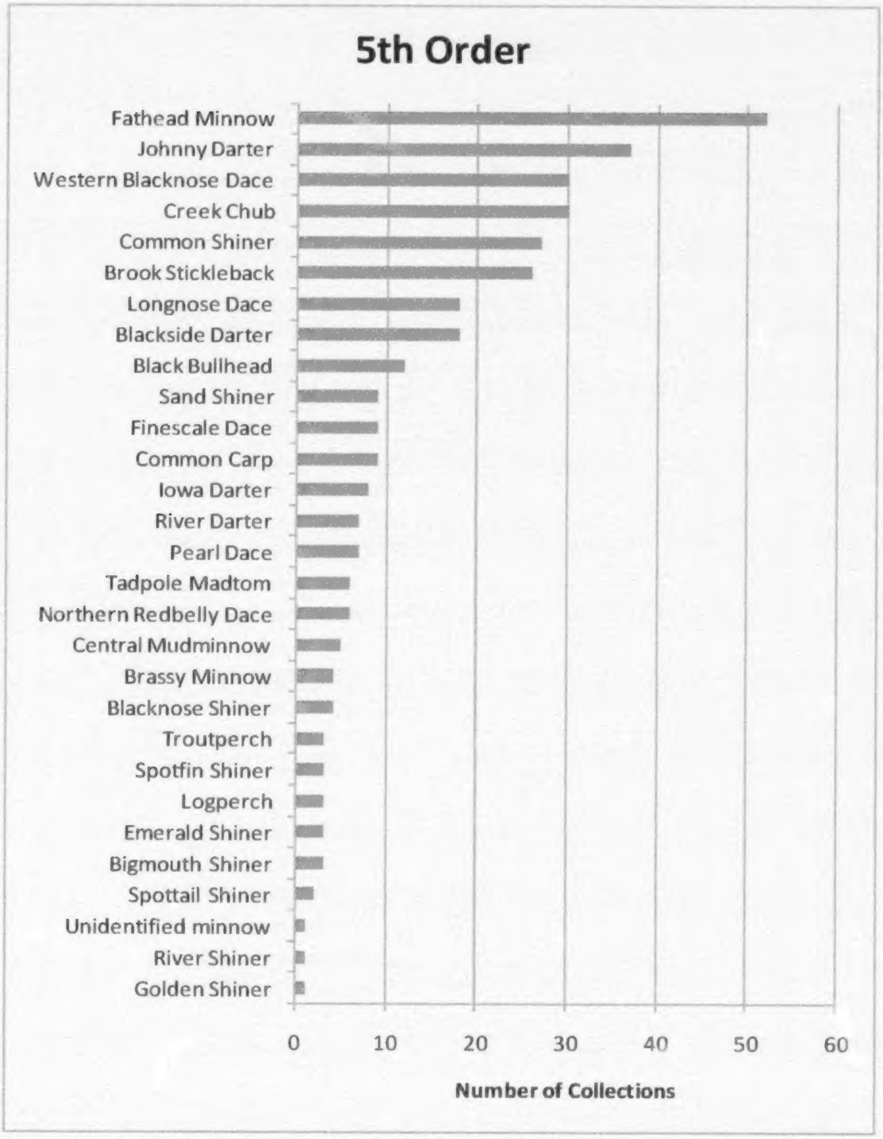


Figure 30: **Showing the composition of Non-Indicator Species collections summarized for DES stream order 5.**

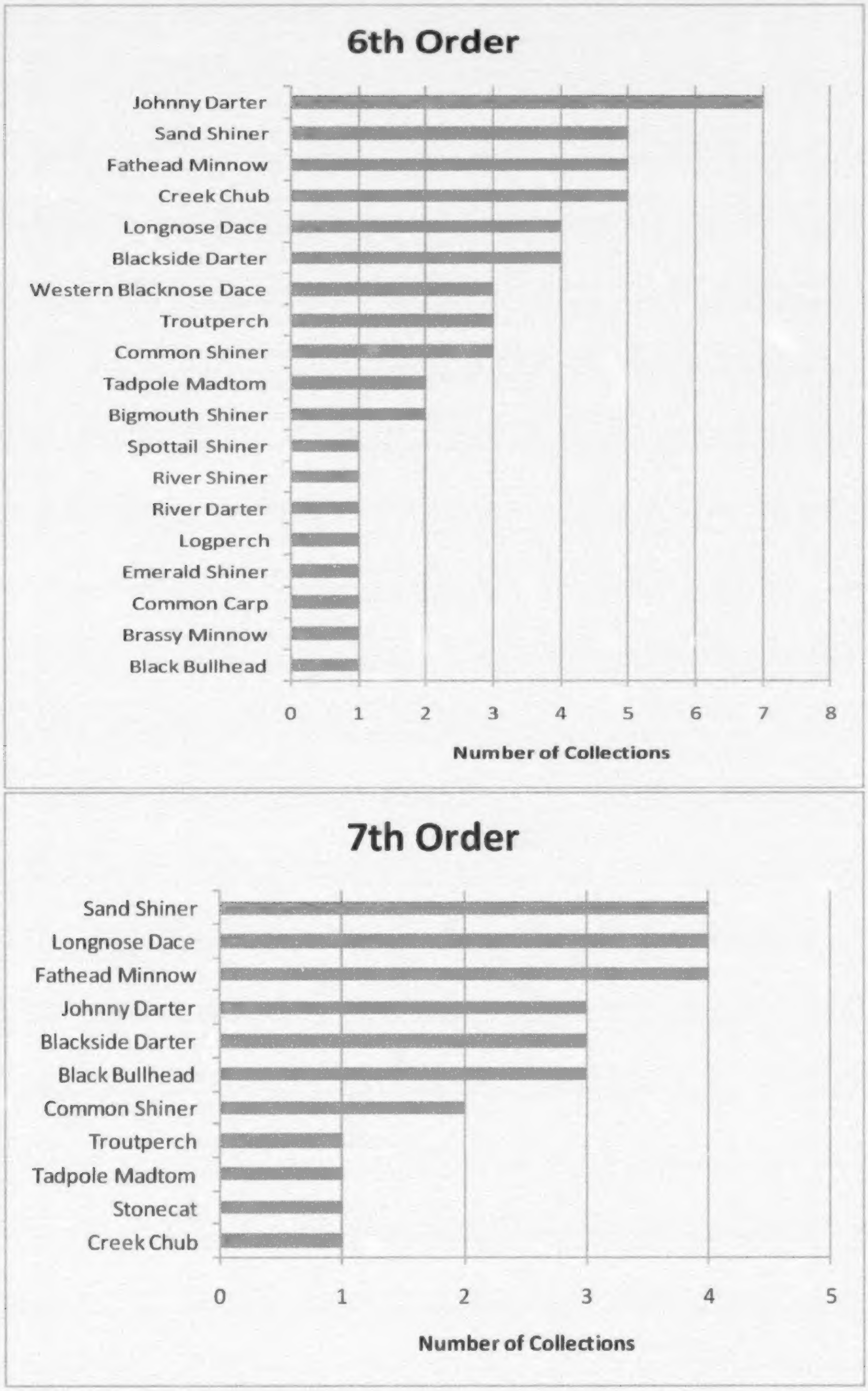


Figure 31: Showing the composition of Non-Indicator Species collections summarized for DES stream orders 6 and 7.

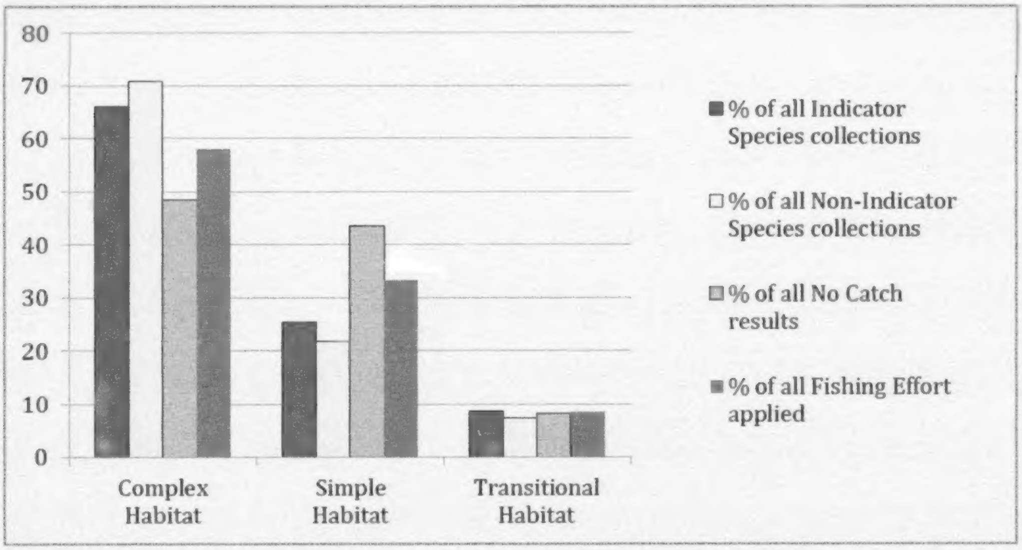


Figure 32: Showing the percentage of fishing effort and percentage of each fish capture type (Indicator Species, Non-Indicators Species and No Catch) when distibuted by habitat type (Complex Habitat, Simple Habitat or Transitional Habitat).

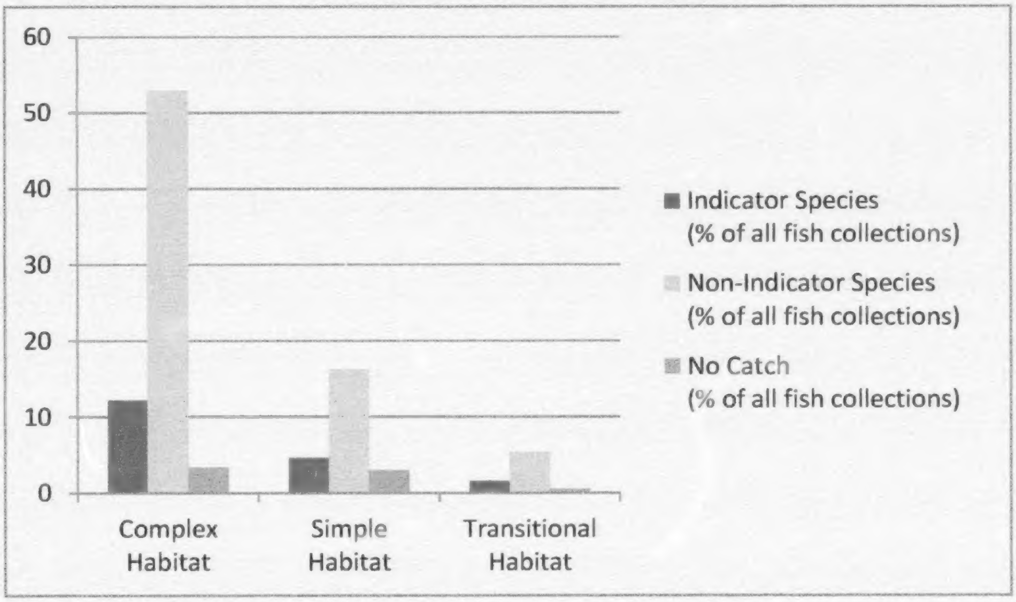
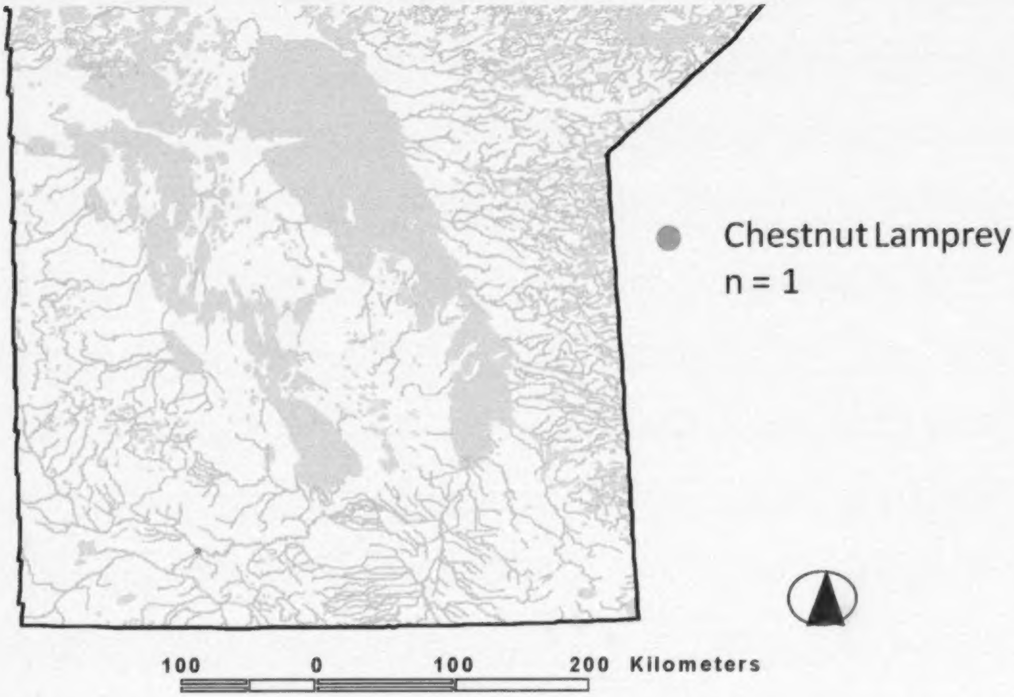


Figure 33: Showing the composition (percentage of the entire catch) of each fish capture type (including No Catch as a capture result) when distributed by Habitat Type.

Figure 92 shows the percent distribution of each species collected by channel type. Channel type was determined by the absence of any dikes; the presence of a dike on one side of the channel only; or by having dykes built on both sides of the channel, isolating it from the floodplain.



● Chestnut Lamprey
n = 1
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Chestnut Lamprey	1	187	187	187	0	187	0	0

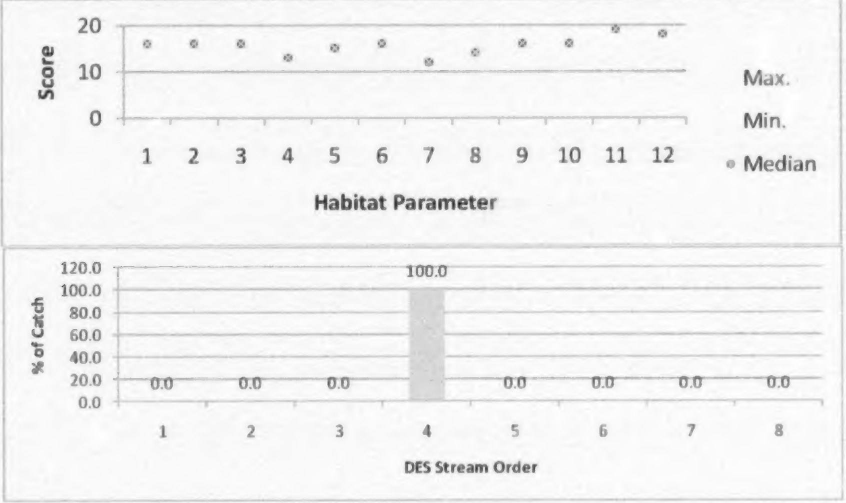
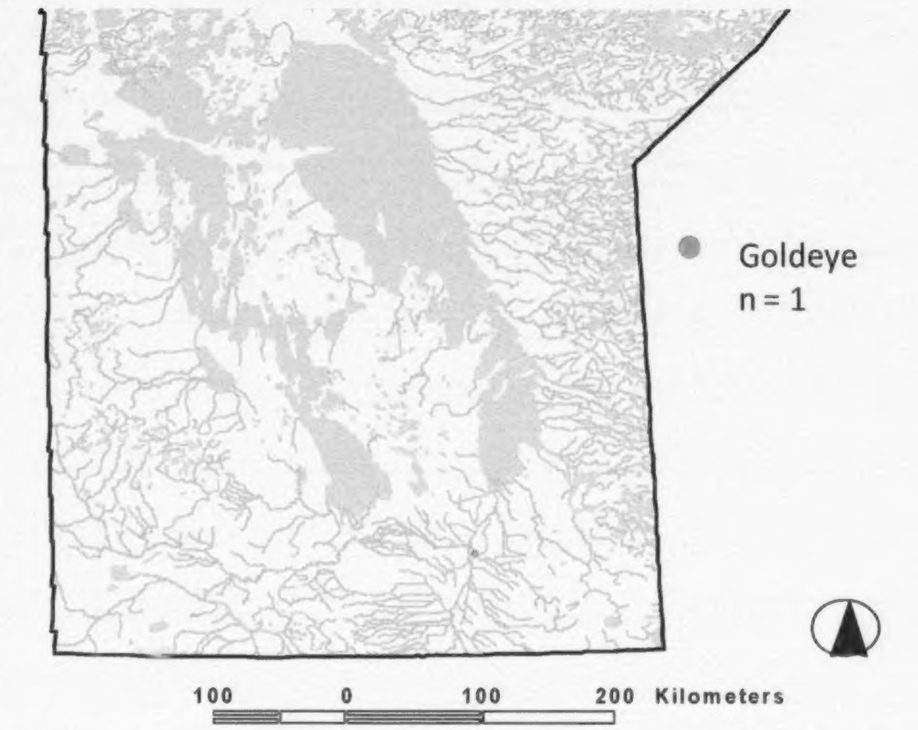


Figure 34: **A summary of Chestnut Lamprey collections showing collection sites; maximum, minimum, and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.**



Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Goldeye	1	112	112	112	0	112	0	0

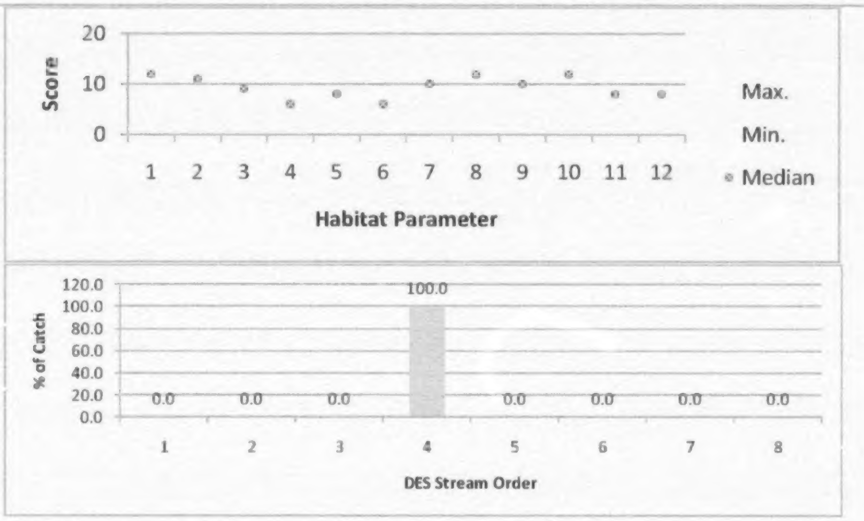
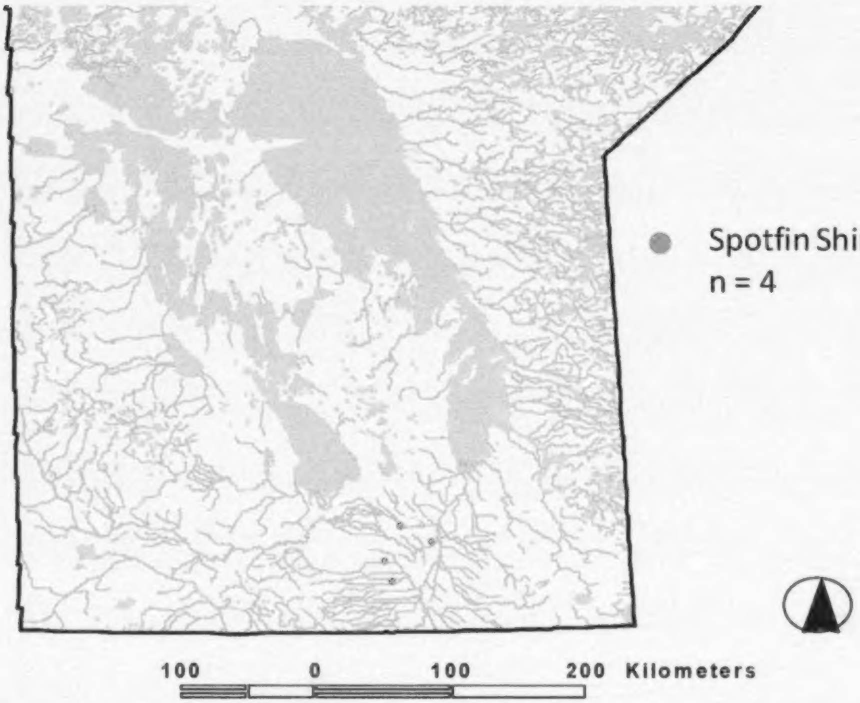


Figure 35: **A summary of Goldeye collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.**


Spotfin Shiner
n = 4
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Spotfin Shiner	4	111	137	72	65	431	785	28

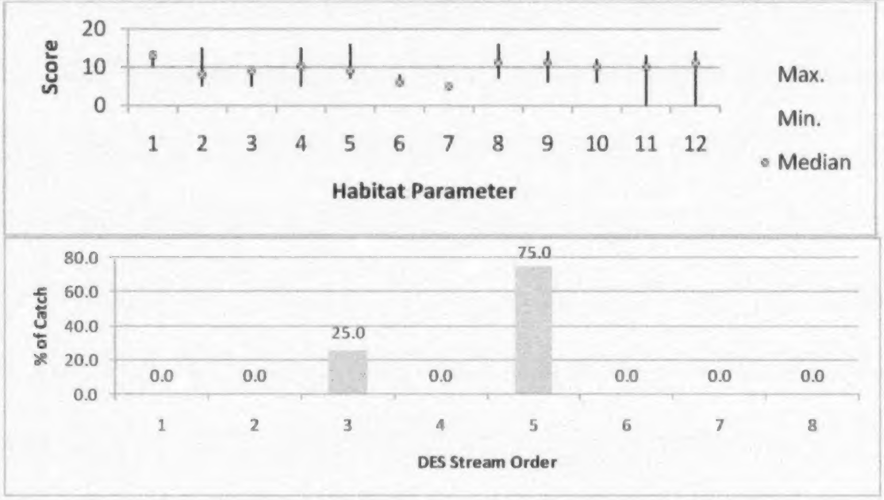
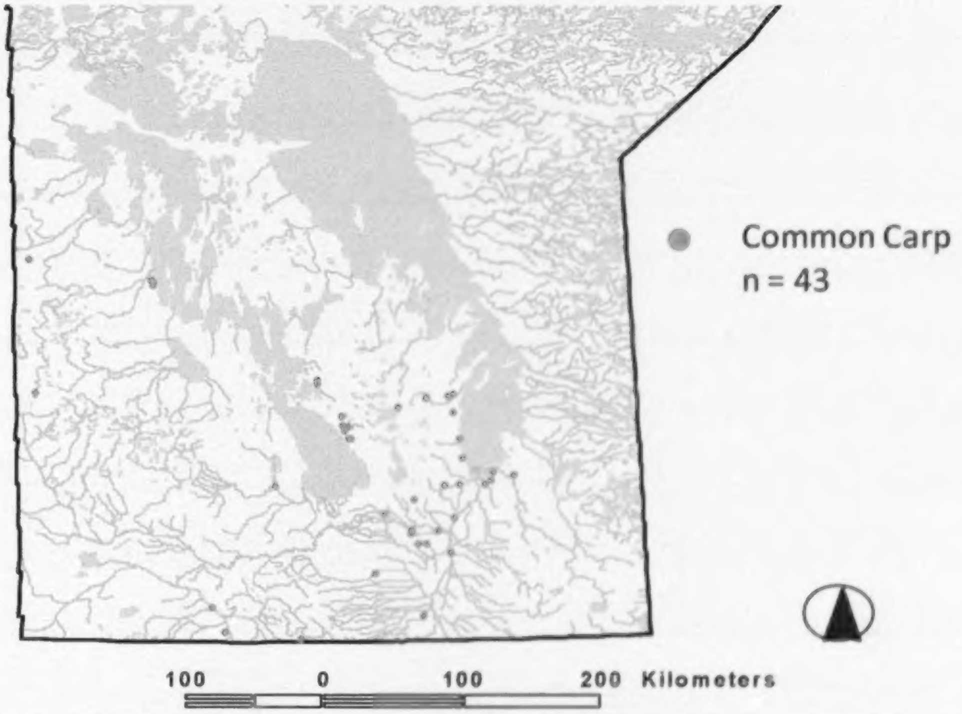
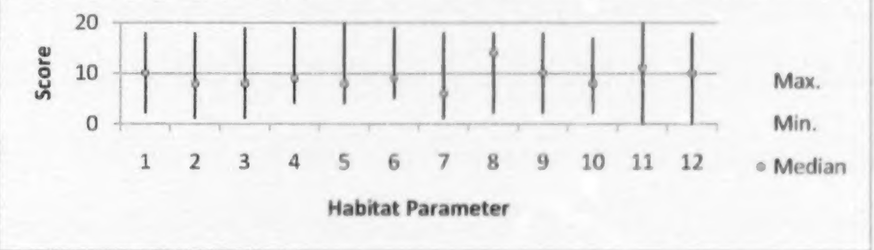


Figure 36: A summary of Spotfin Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Common Carp
n = 43
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Common Carp	35	104	202	72	130	3990	997	32



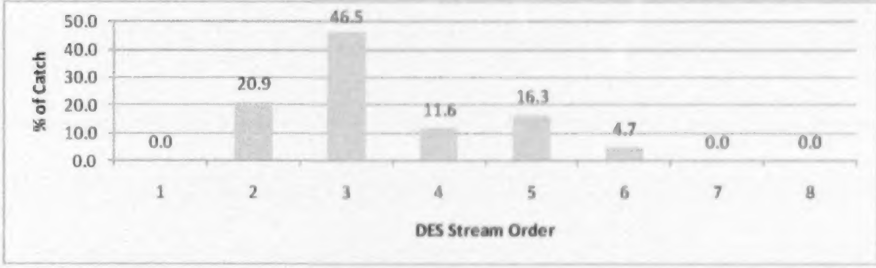
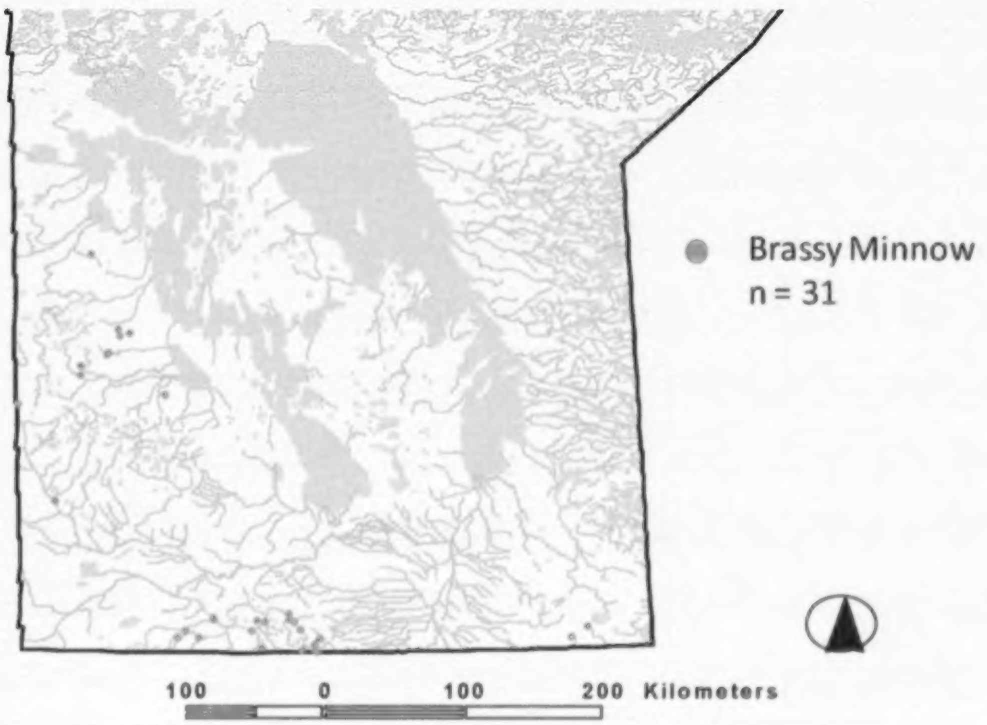


Figure 37: **A summary of Common Carp collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.**


Brassy Minnow
n = 31
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Brassy Minnow	30	152	203	96	107	4579	468	22

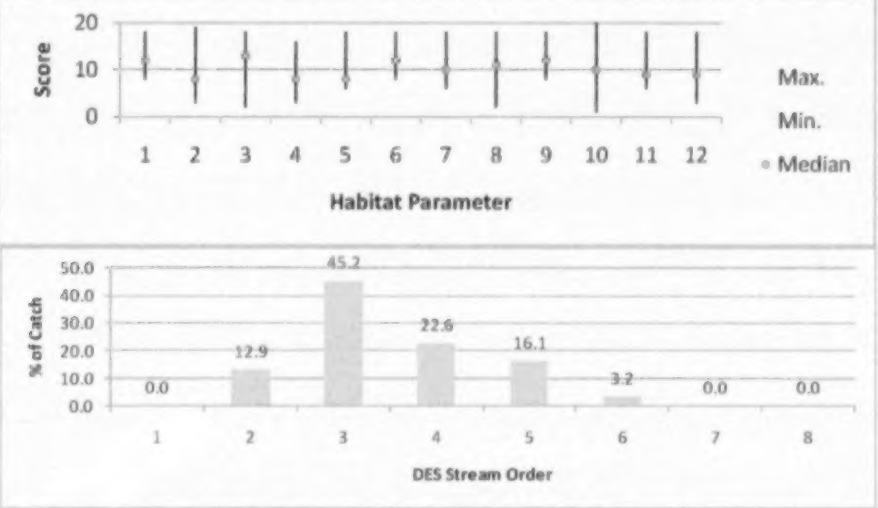
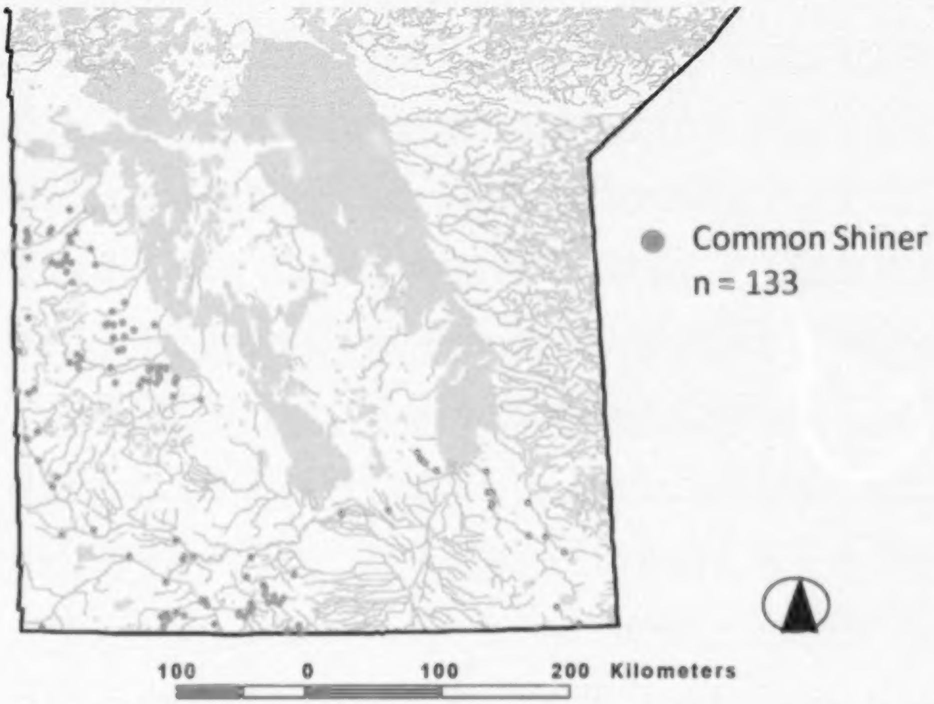
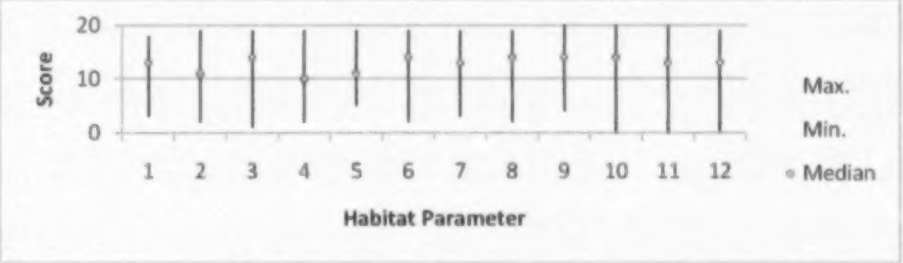


Figure 38: A summary of Brassy Minnow collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Common Shiner
n = 133
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Common Shiner	127	149	205	75	130	19215	881	30



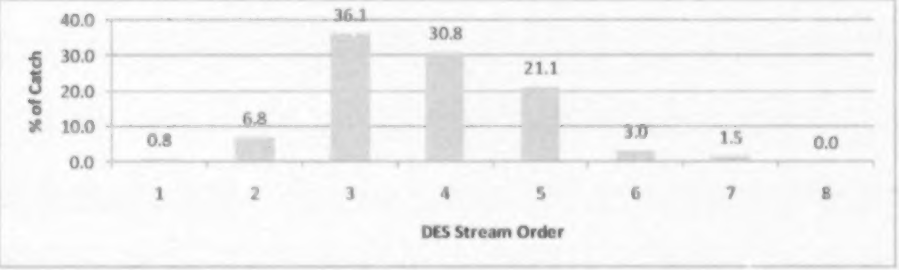
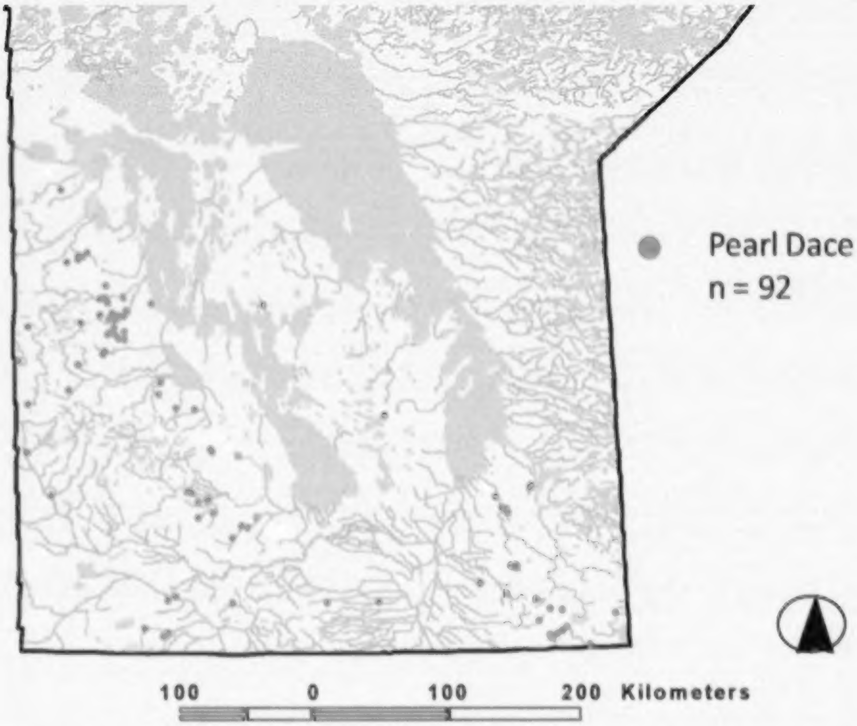


Figure 39: A summary of Common Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Pearl Dace
n = 92
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Pearl Dace	88	149	225	49	176	13395	1153	34

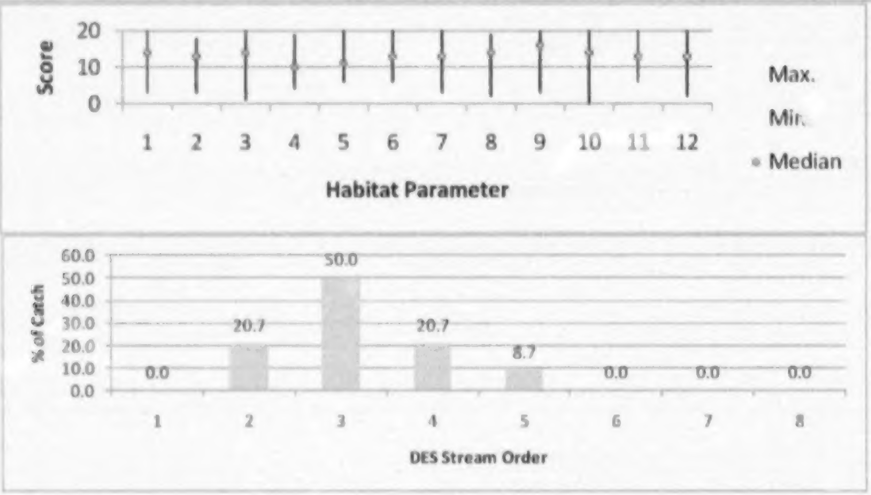
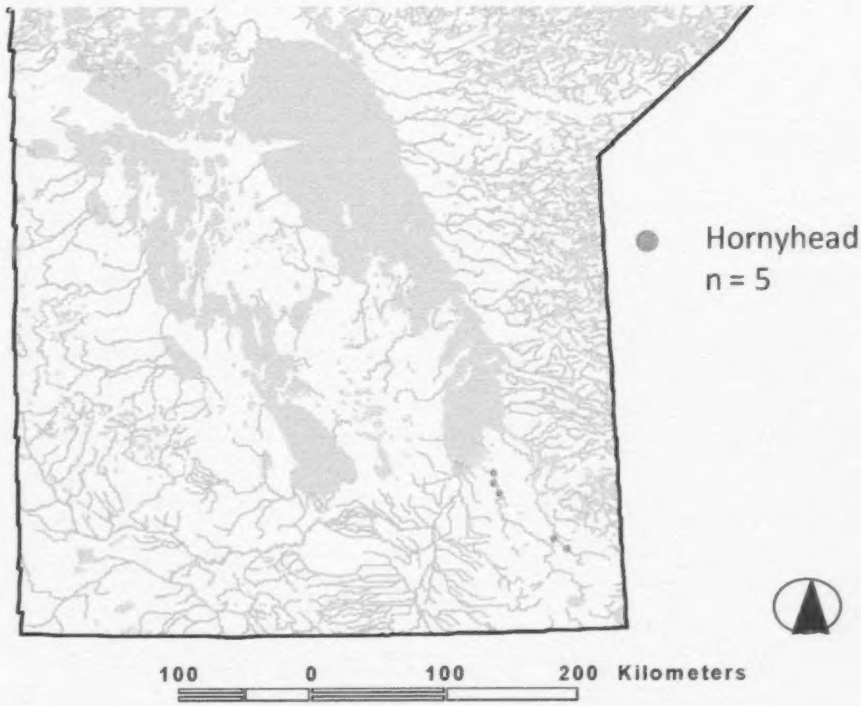
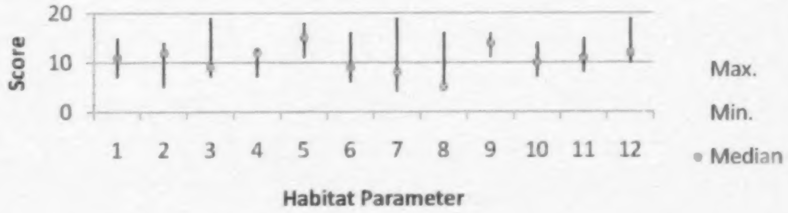


Figure 40: A summary of Pearl Dace collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Hornyhead Chub	4	130	185	108	77	552	1093	33



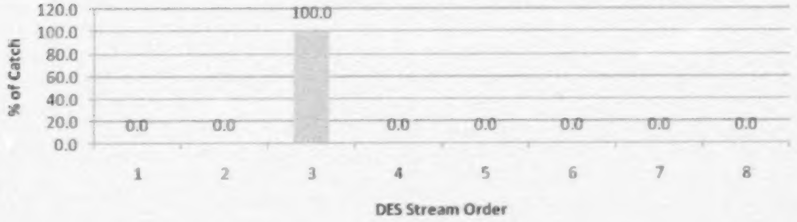
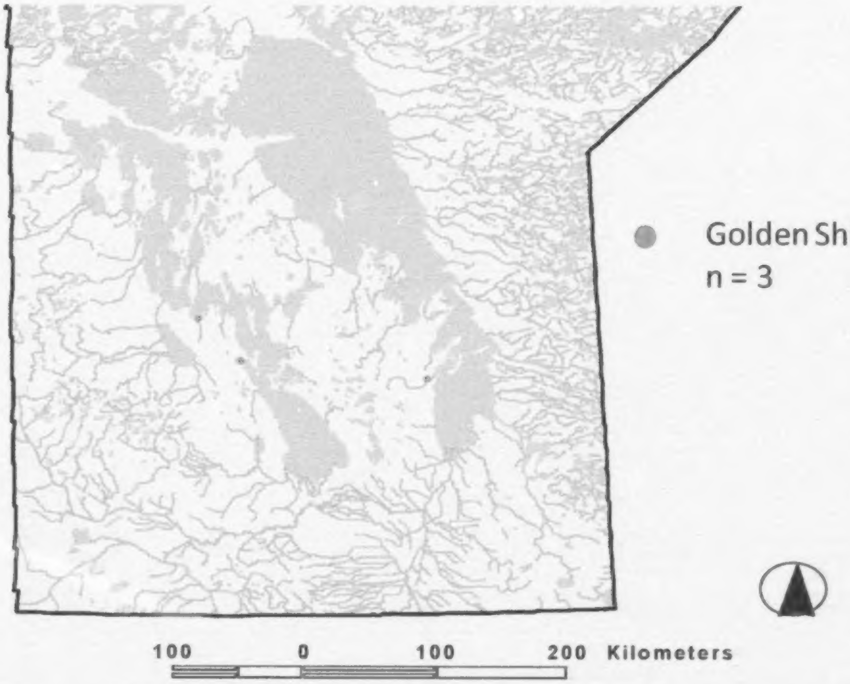
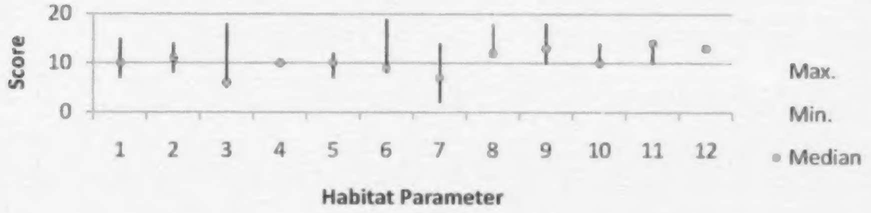


Figure 41: A summary of Hornyhead Chub collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Golden Shiner
n = 3
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Golden Shiner	3	127	169	110	59	406	922	30



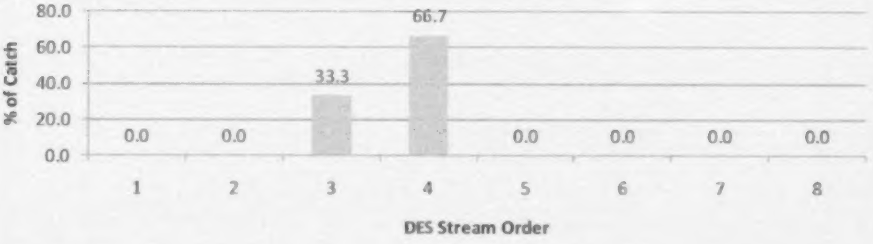
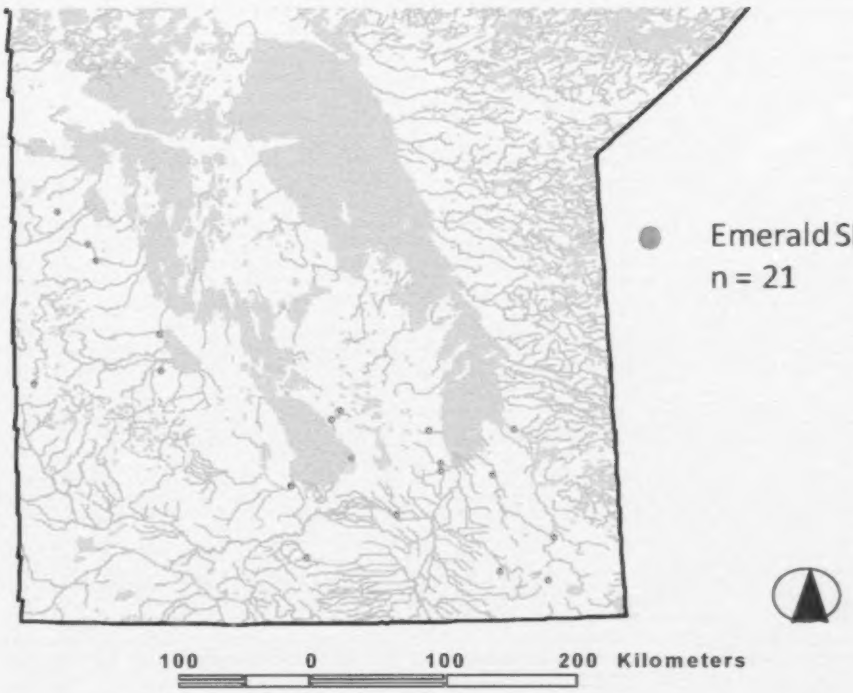
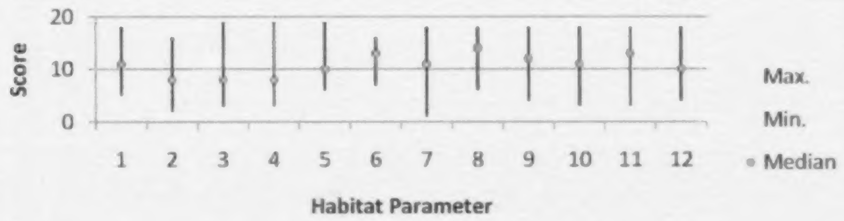


Figure 42: A summary of Golden Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Emerald Shiner
n = 21
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Emerald Shiner	18	138	202	75	127	2312	1349	37



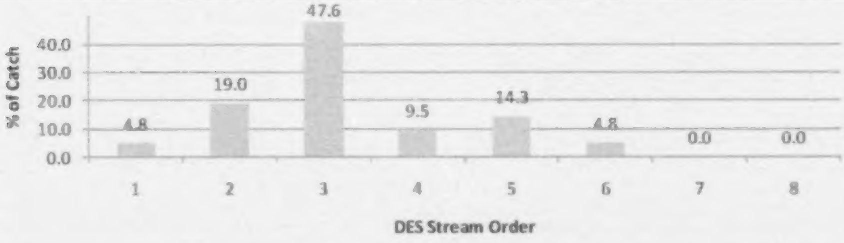
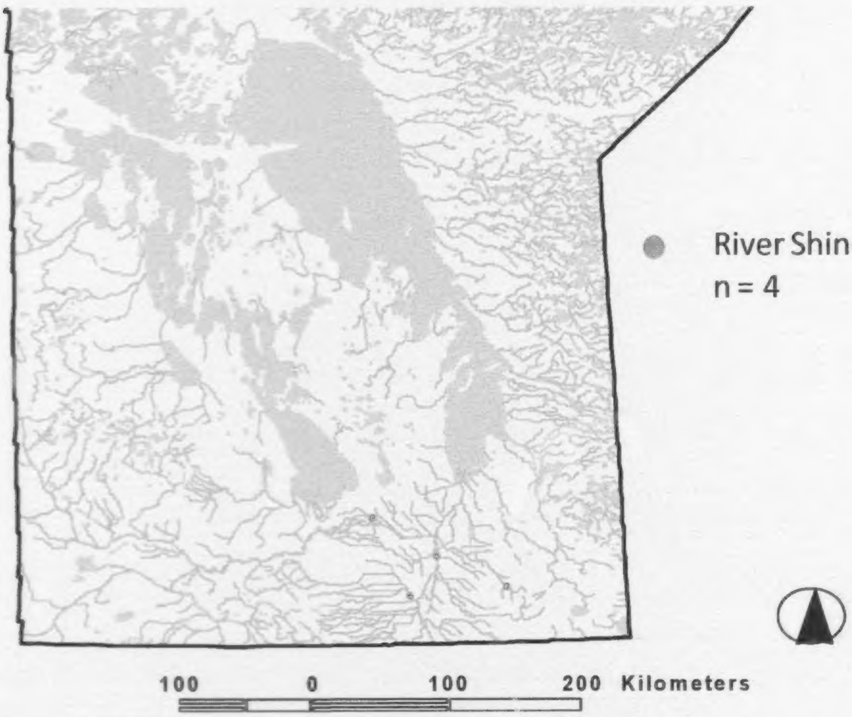


Figure 43: A summary of Emerald Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


River Shiner
n = 4
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
River Shiner	4	124	169	106	63	522	755	27

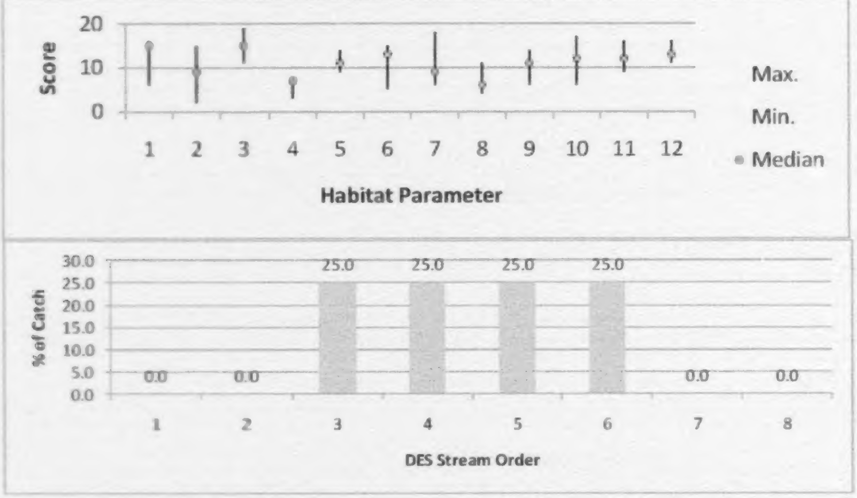
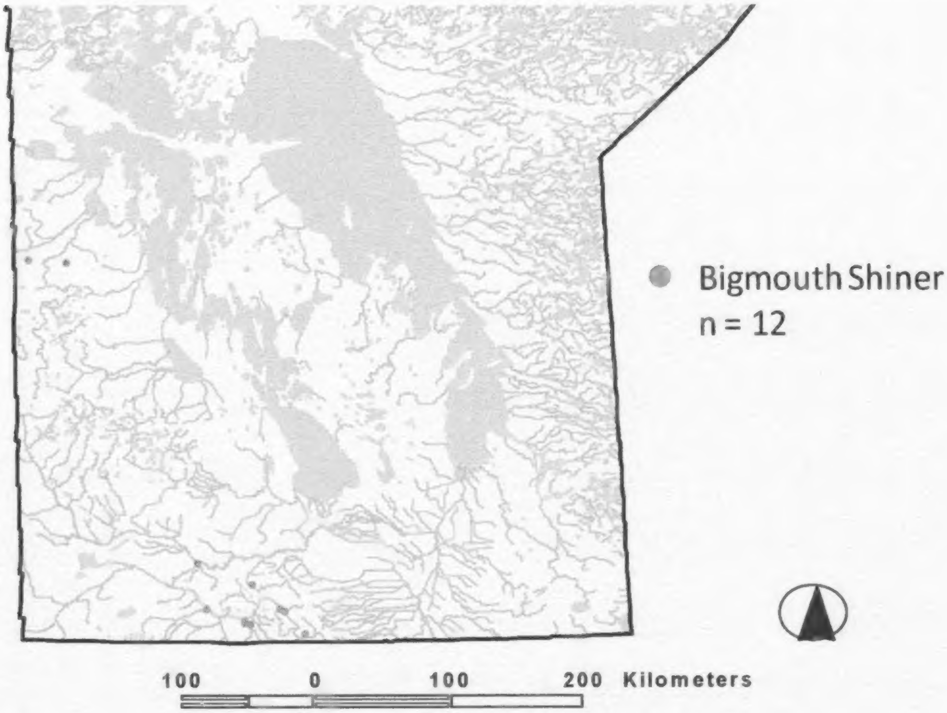


Figure 44: **A summary of River Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.**



● Bigmouth Shiner
n = 12
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Bigmouth Shiner	12	141	201	105	96	1804	721	27

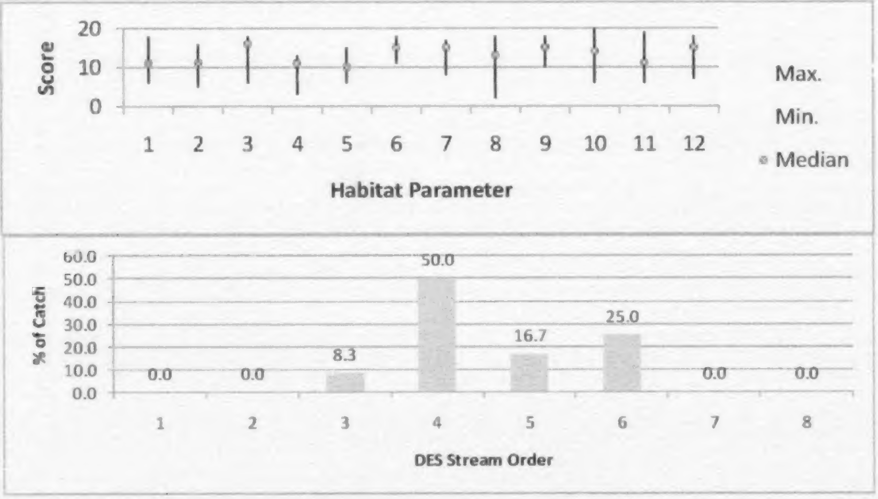
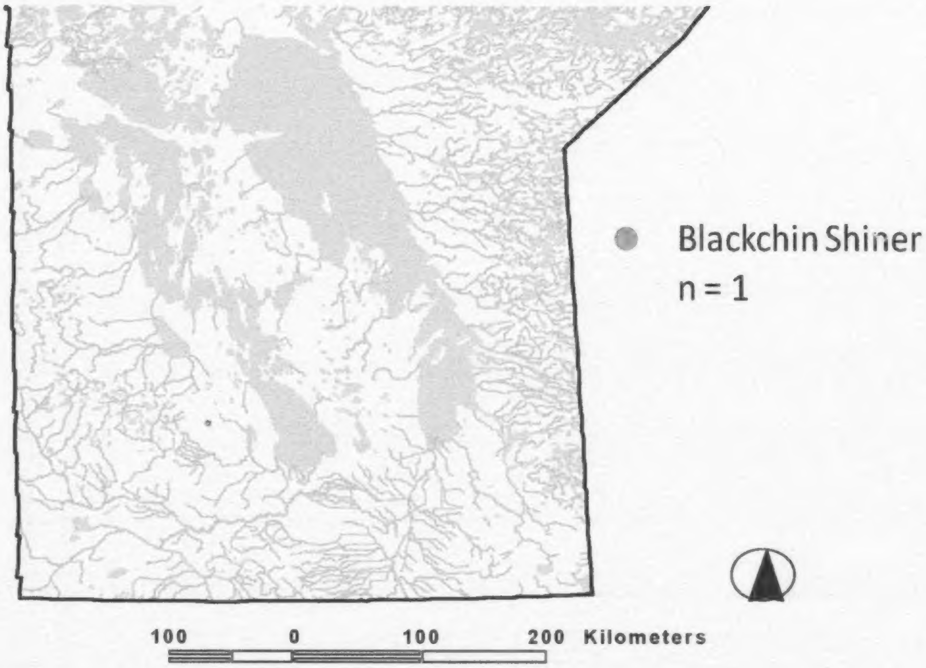


Figure 45: A summary of Bigmouth Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Blackchin Shiner
n = 1
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Blackchin Shiner	1	106	106	106	0	106	0	0

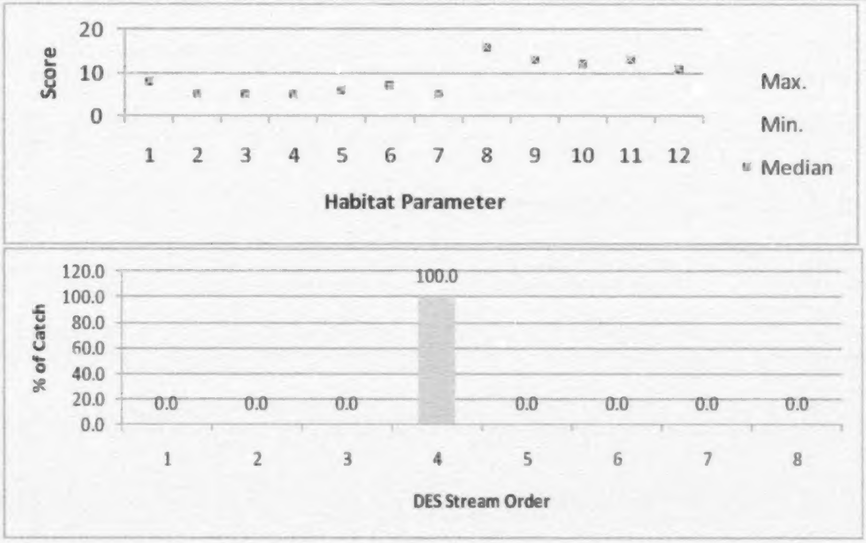
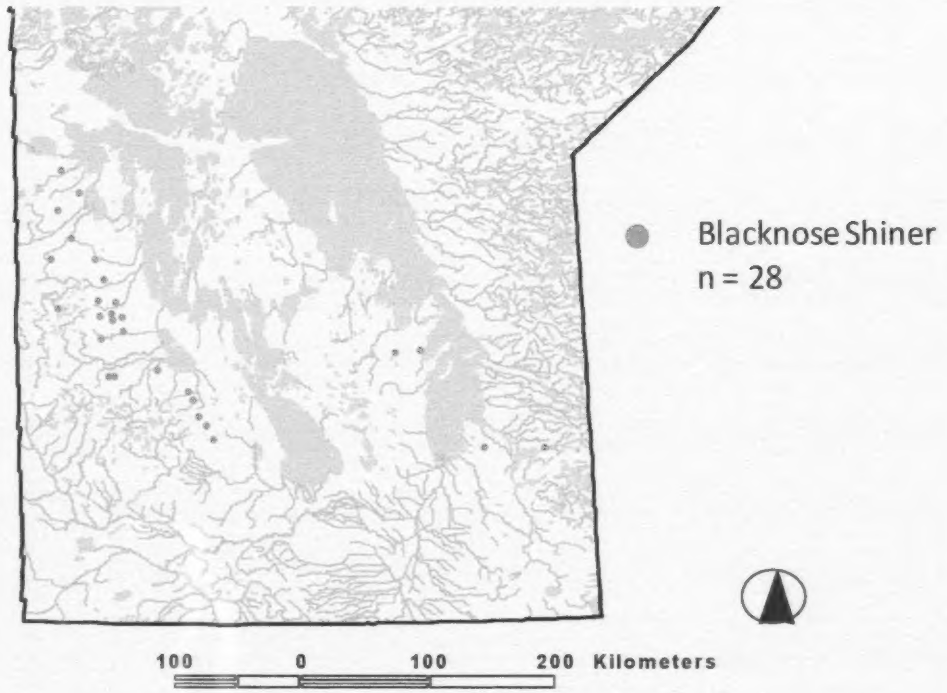


Figure 46: A summary of Blackchin Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Blacknose Shiner
n = 28
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Blacknose Shiner	28	154	209	60	149	4002	1330	36

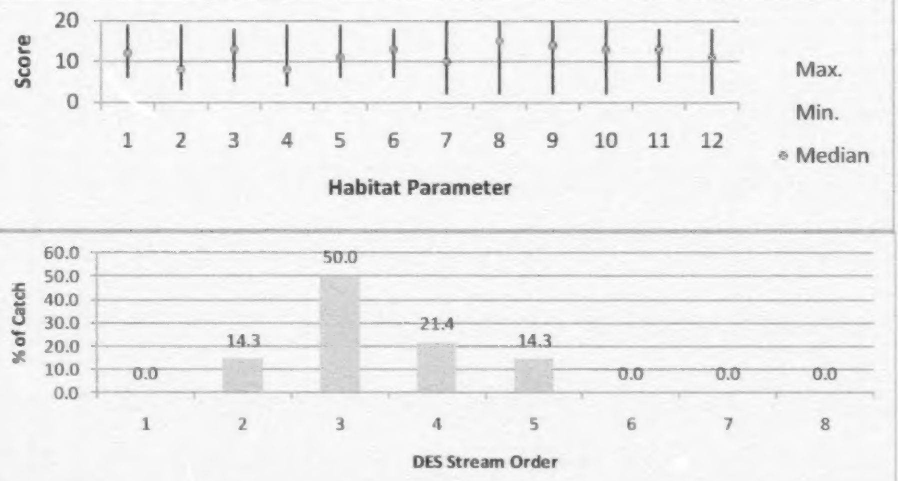
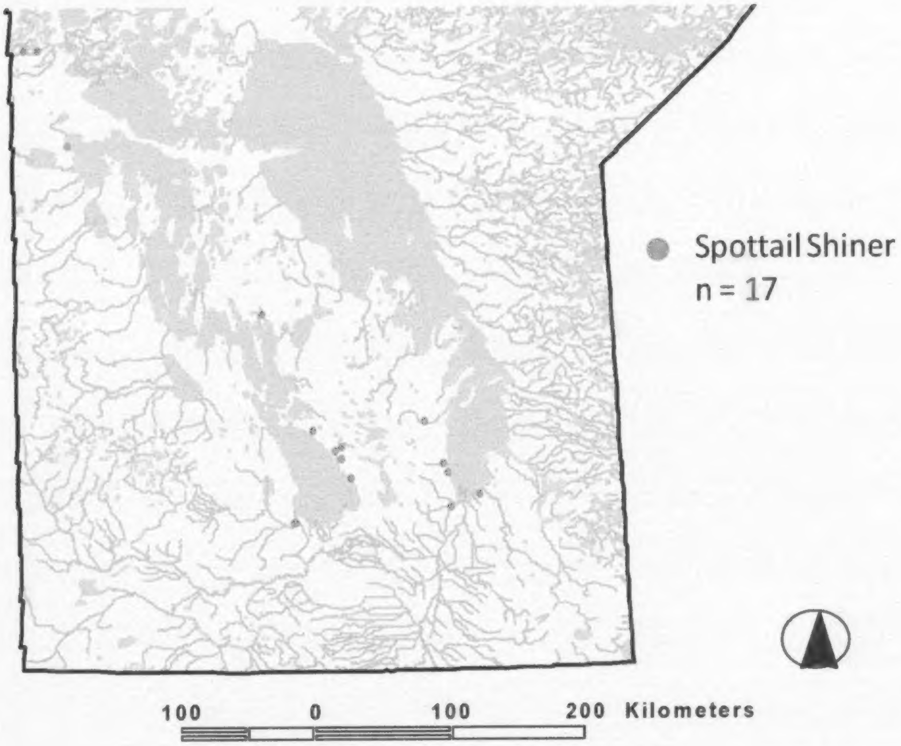


Figure 47: A summary of Blacknose Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Spottail Shiner
n = 17
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Spottail Shiner	16	138	177	70	107	2069	1133	34

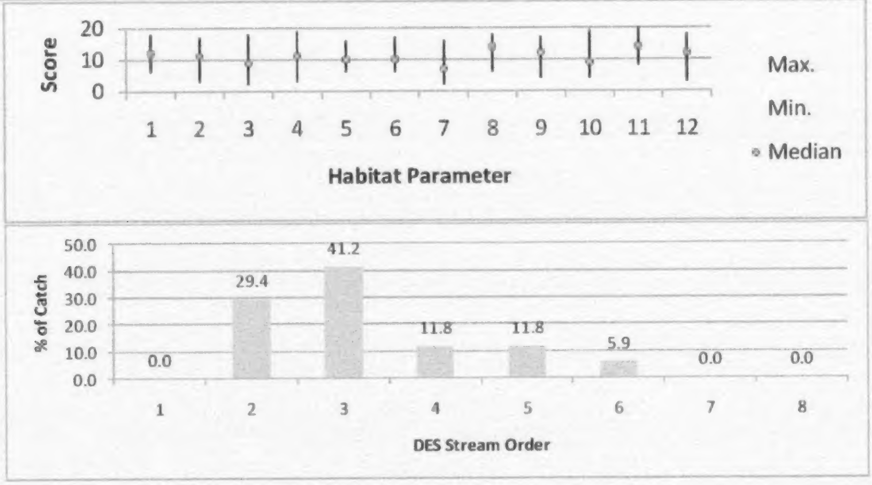
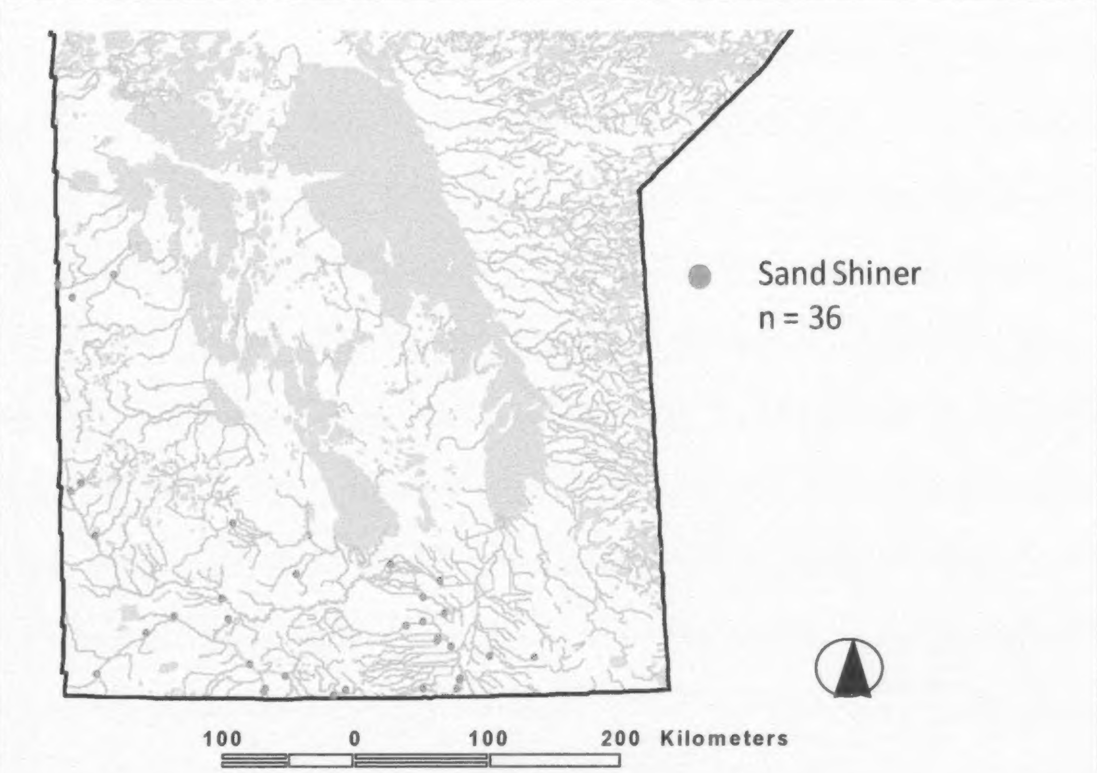


Figure 48: A summary of Spottail Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Sand Shiner	35	141	185	75	110	4776	794	28

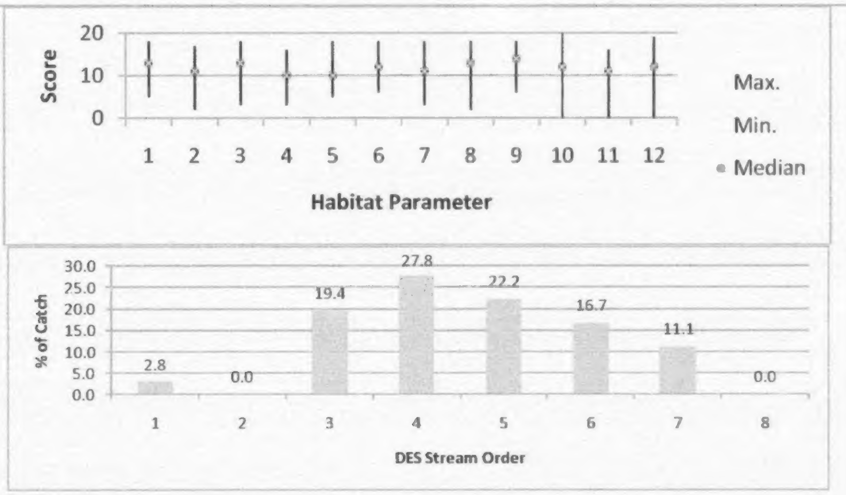
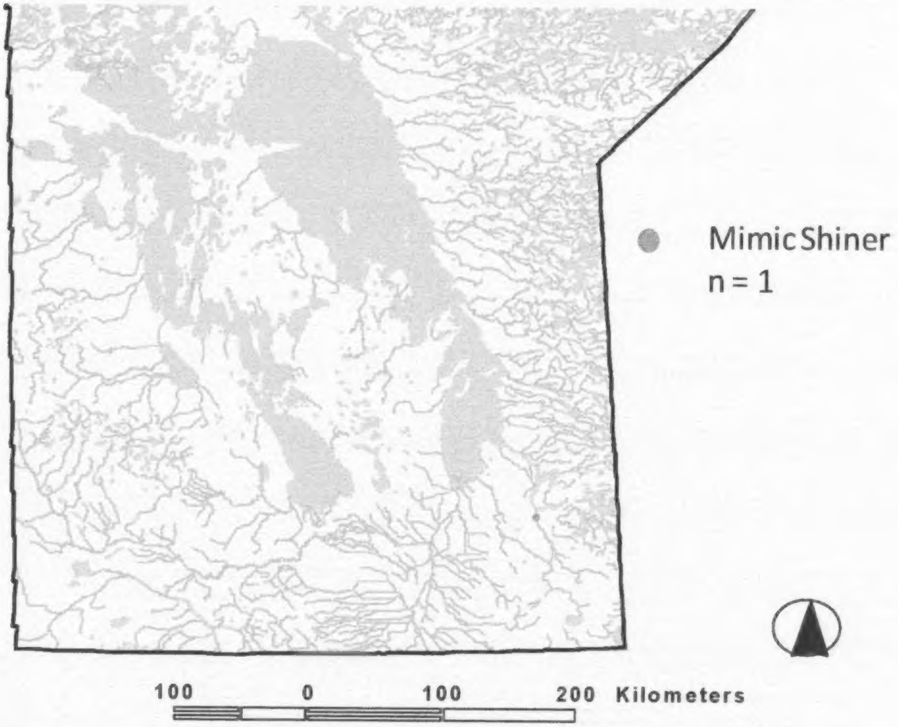


Figure 49: A summary of Sand Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Mimic Shiner
n = 1
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Mimic Shiner	1	118	118	118	0	118	0	0

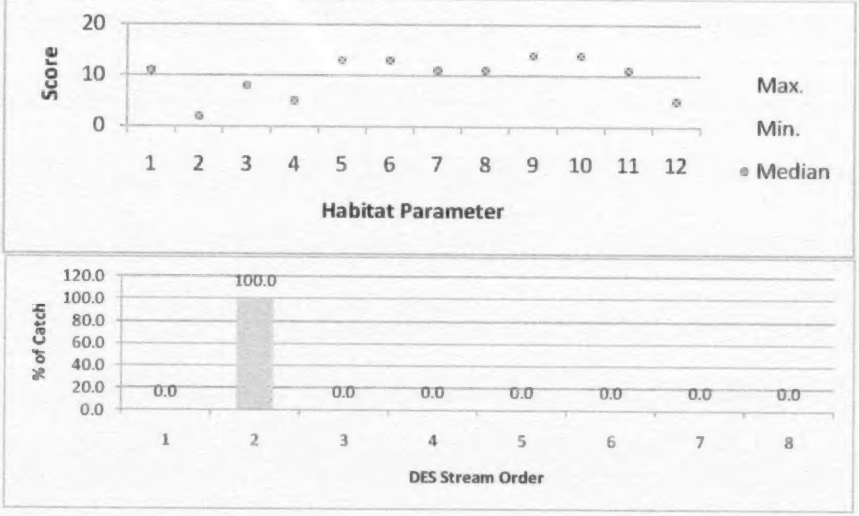
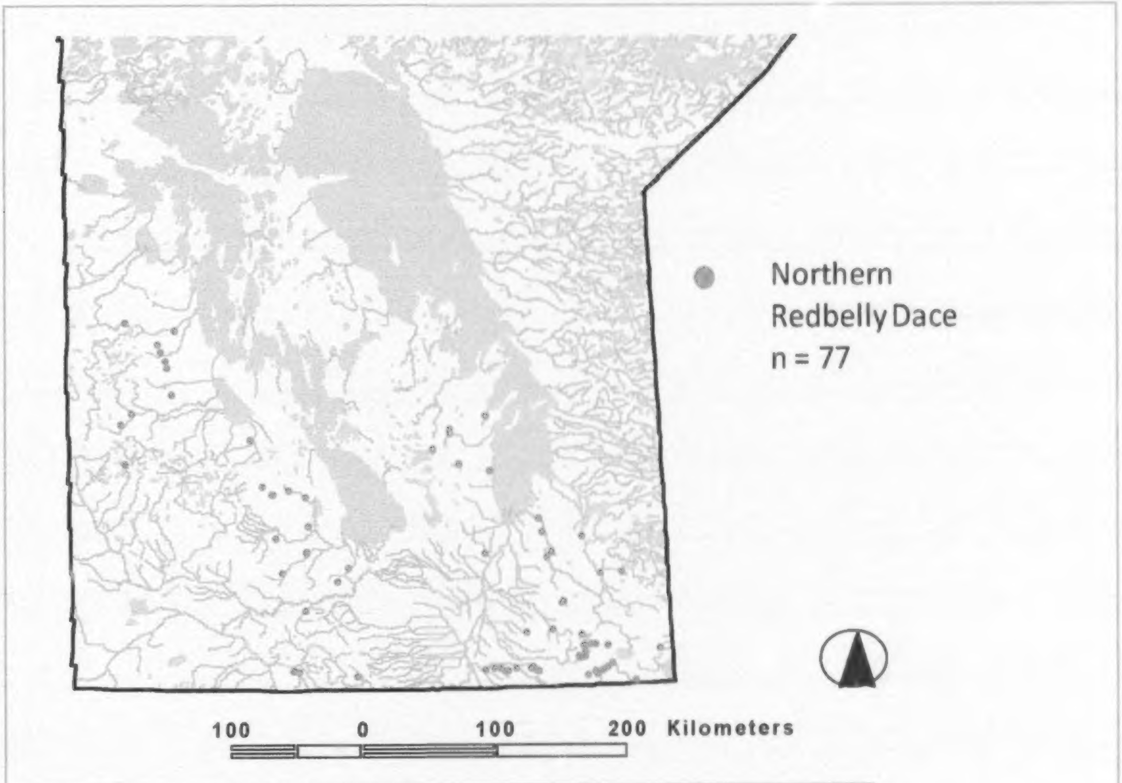
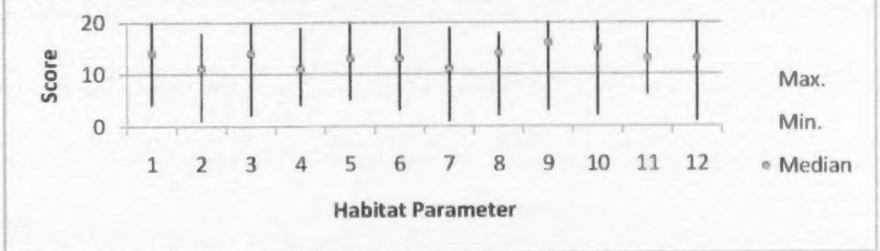


Figure 50: A summary of Mimic Shiner collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Northern Redbelly Dace n = 77
100 0 100 200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Northern Redbelly Dace	74	149	225	77	148	11182	979	31



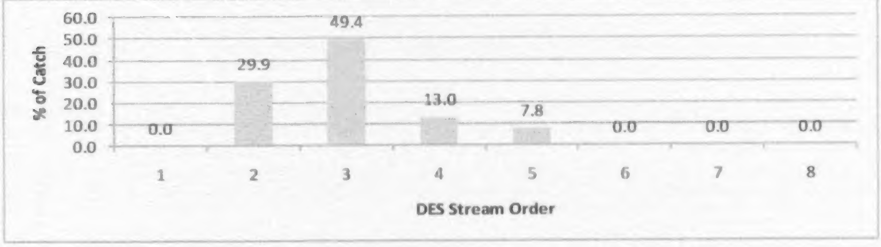
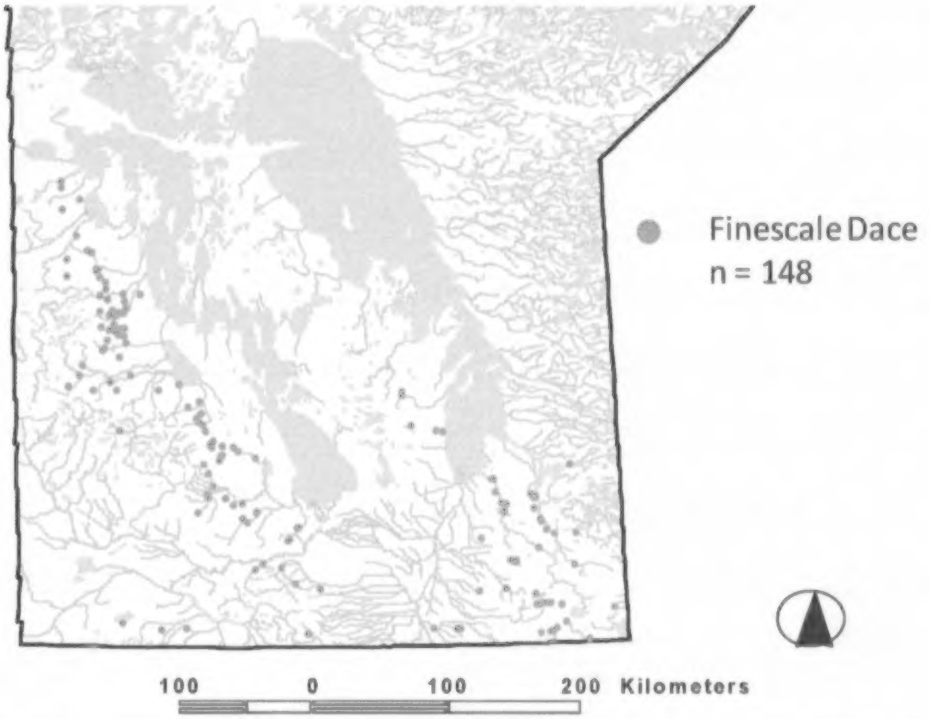


Figure 51: A summary of Northern Redbelly Dace collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Finescale Dace
n = 148
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Finescale Dace	141	148	225	49	176	20765	963	31

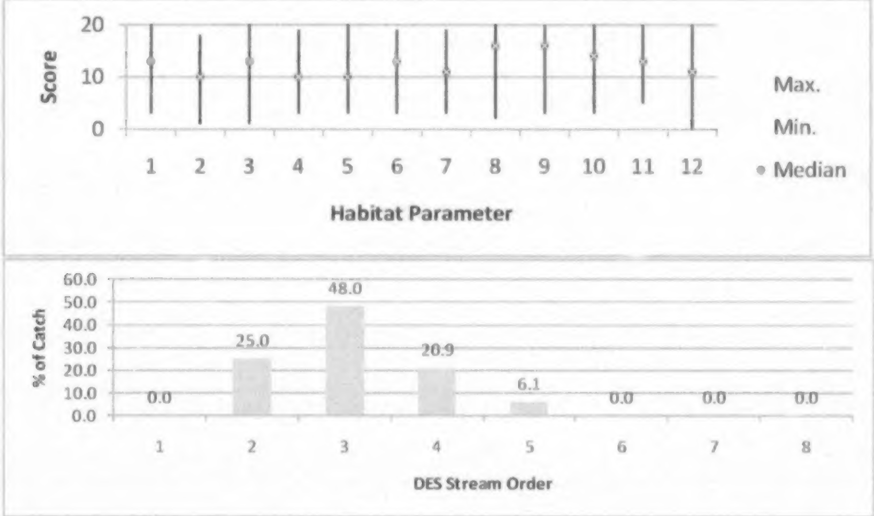
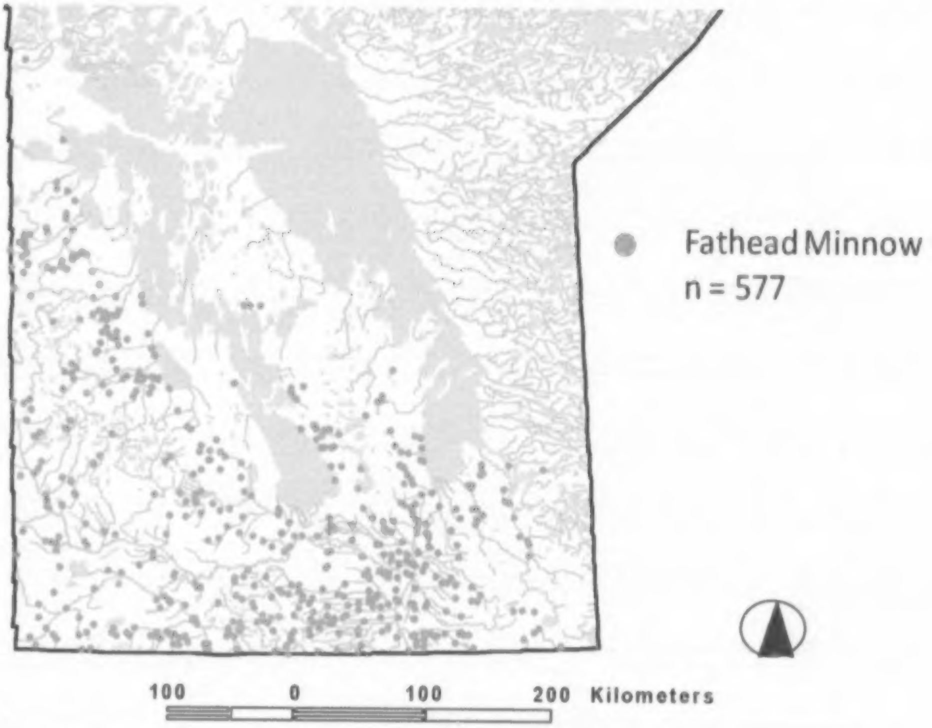
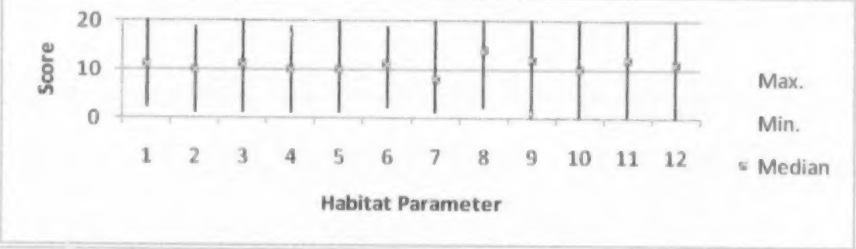


Figure 52: A summary of Finescale Dace collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Fathead Minnow
n = 577
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Fathead Minnow	548	130	225	42	183	71787	1030	32



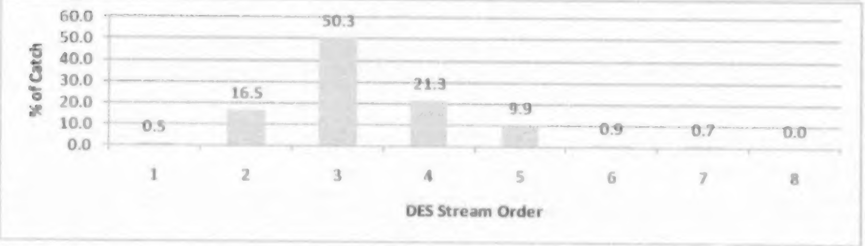
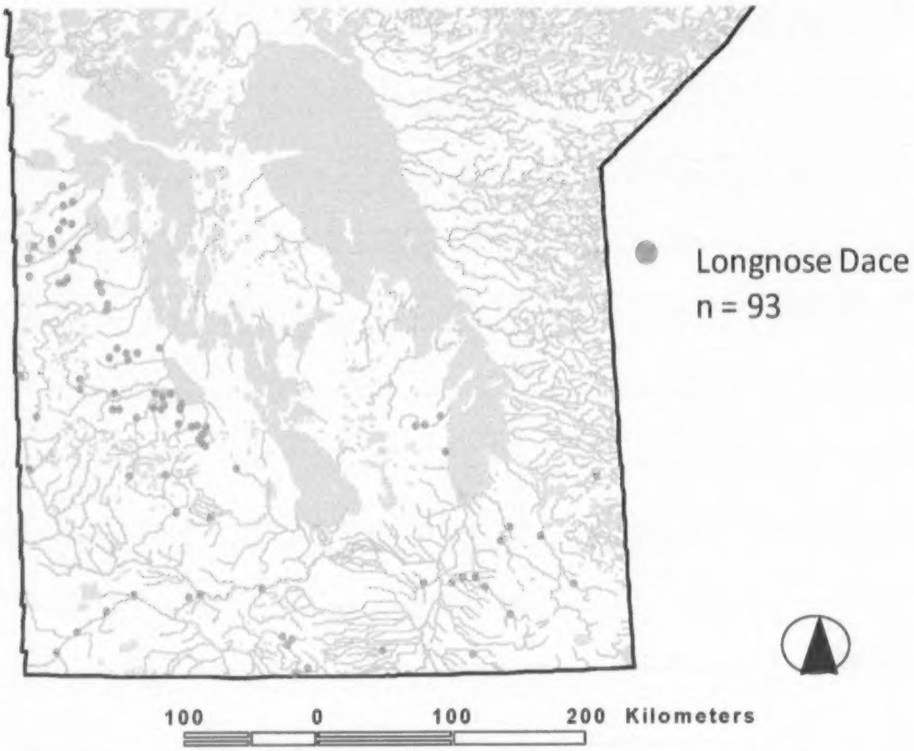
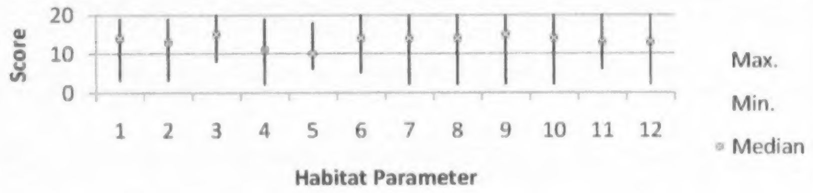


Figure 53: A summary of Fathead Minnow collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Longnose Dace
n = 93
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Longnose Dace	88	157	223	60	163	13658	1128	34



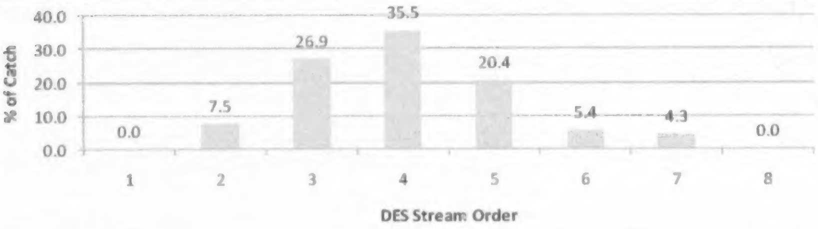
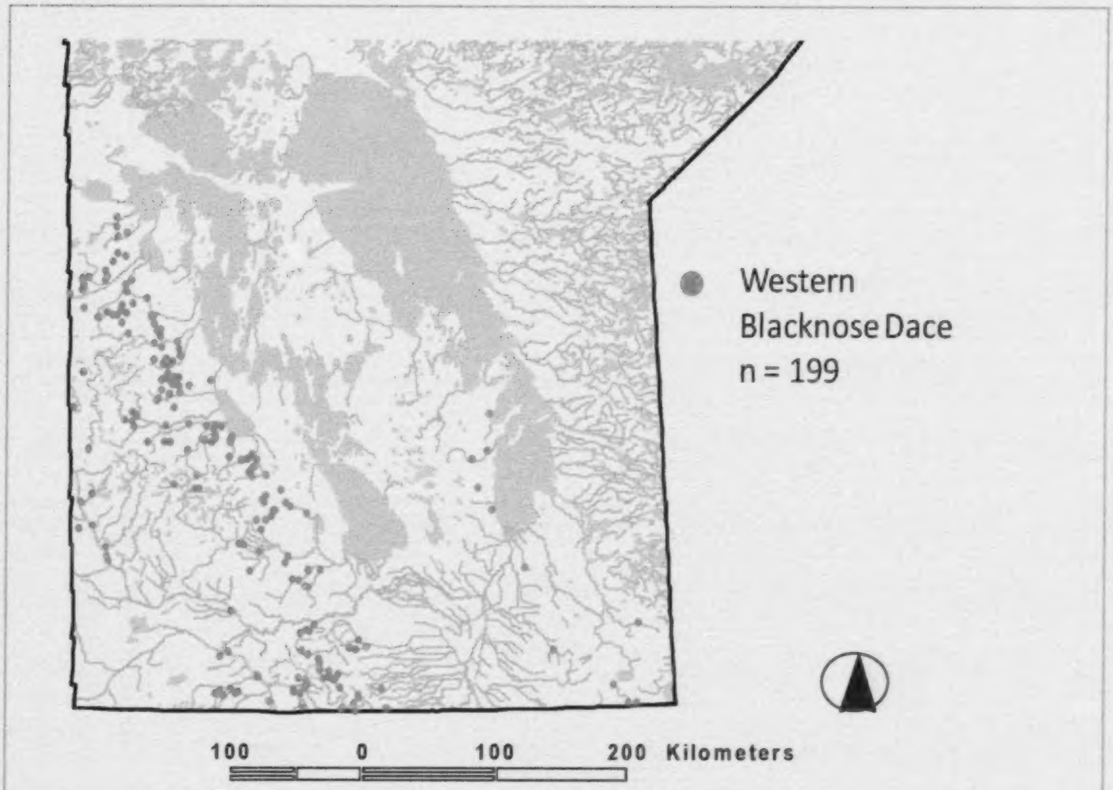


Figure 54: A summary of Longnose Dace collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Western
Blacknose Dace
n = 199
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Western Blacknose Dace	193	150	208	49	159	28780	987	30

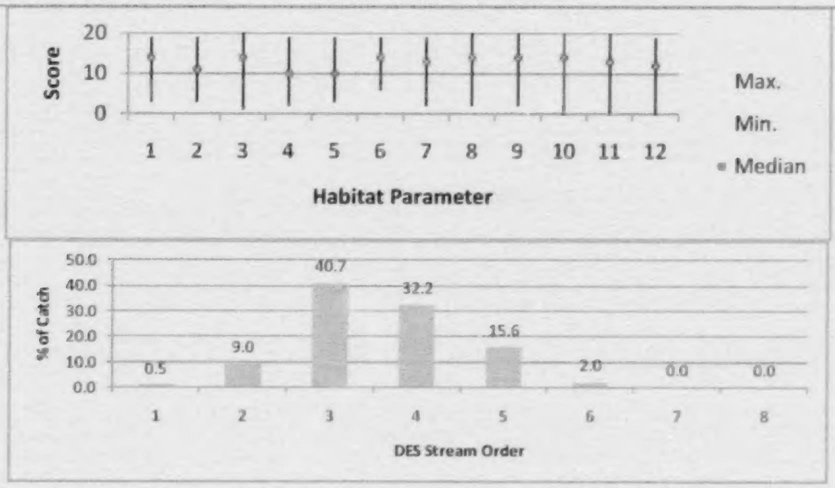
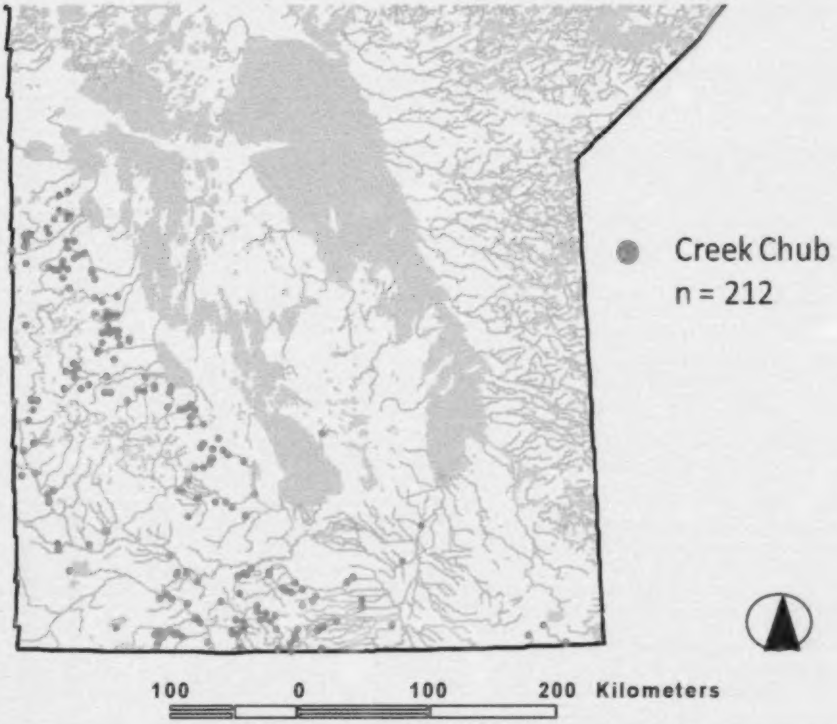


Figure 55: A summary of Western Blacknose Dace collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Creek Chub
n = 212
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Creek Chub	203	148	208	49	159	29825	996	32

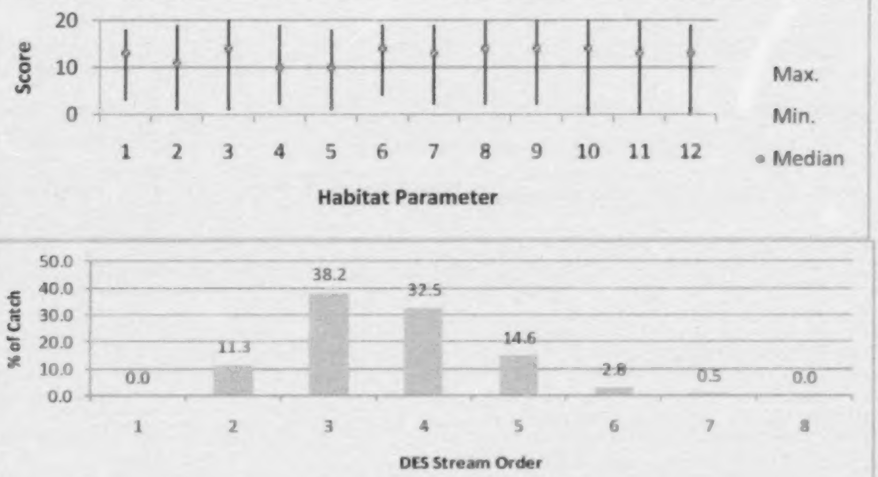
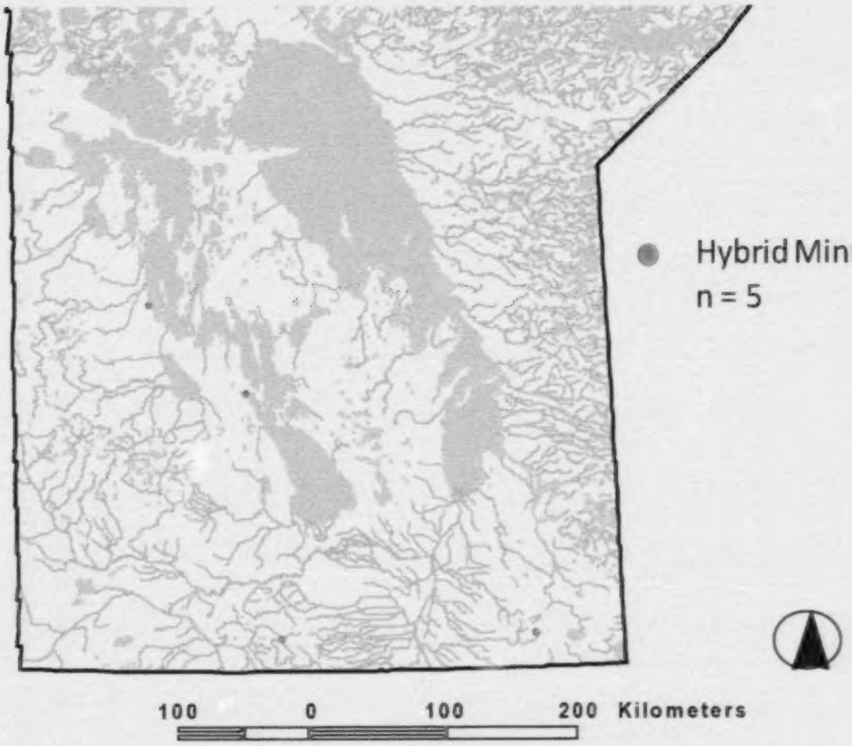
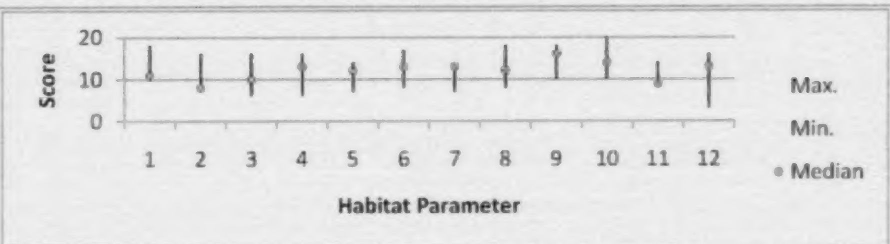


Figure 56: A summary of Creek Chub collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Hybrid Minnows
n = 5
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Hybrid Minnow	5	139	170	127	43	727	267	16



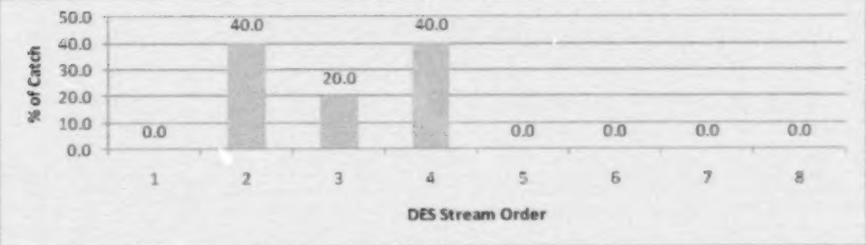
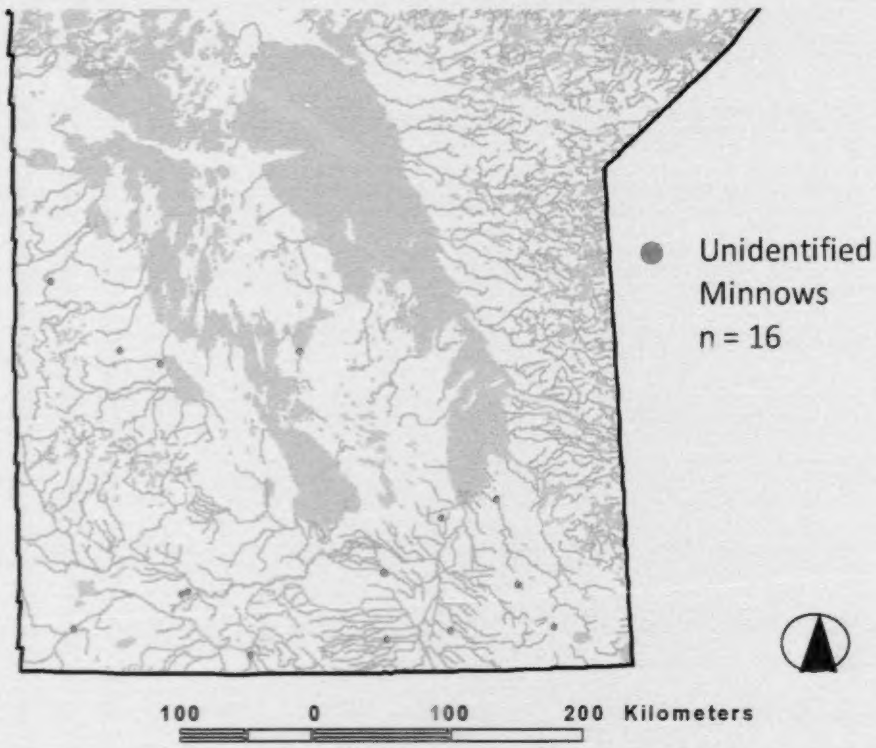
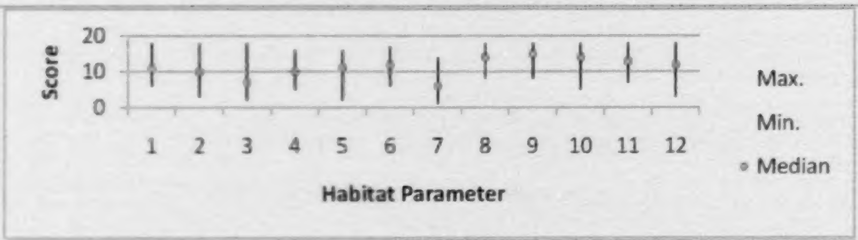


Figure 57: A summary of hybrid minnow (Cyprinidae) collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Unidentified Minnows
n = 16
100
0
100
200 Kilometers

Common Name	Count	Habitat Assessment Score			Range	Sum	Variance	Standard
	(n)	Med.	Max.	Min.				Deviation
Unidentified Minnows	16	120	185	103	82	2073	763	28



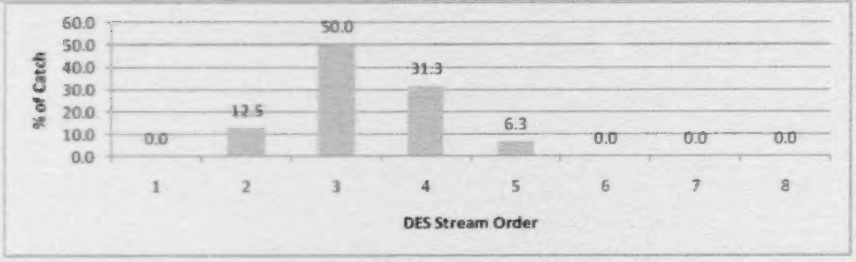
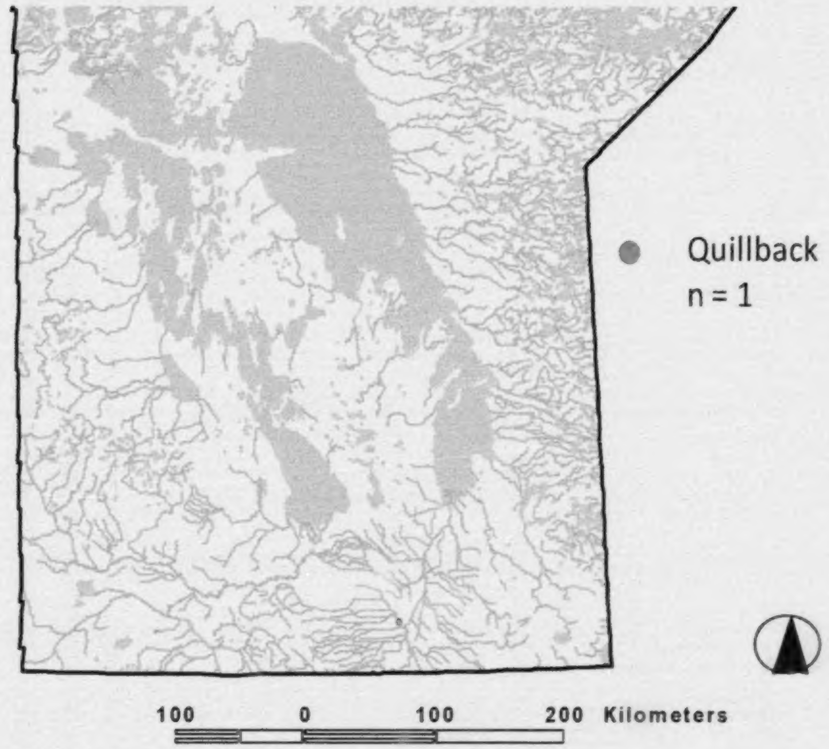


Figure 48: A summary of unidentified minnow (Cyprinidae) collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Quillback
n = 1
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Quillback	1	117	117	117	0	117	0	0

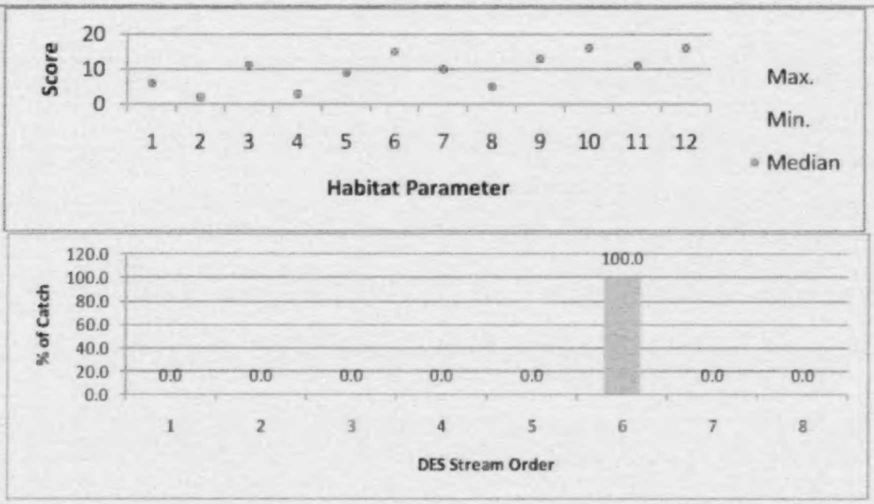
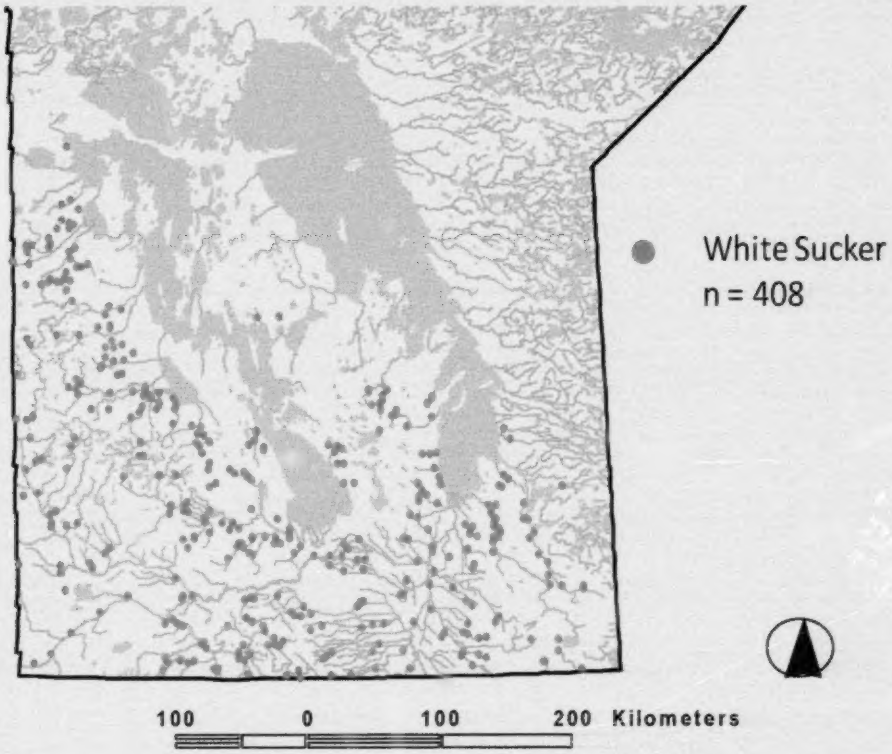


Figure 59: A summary of Quillback collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


White Sucker
n = 408
100
0
100
200
Kilometers

Common Name	Count	Habitat Assessment Score			Range	Sum	Variance	Standard
	(n)	Med.	Max.	Min.				Deviation
White Sucker	373	144	209	49	160	52808	1014	32

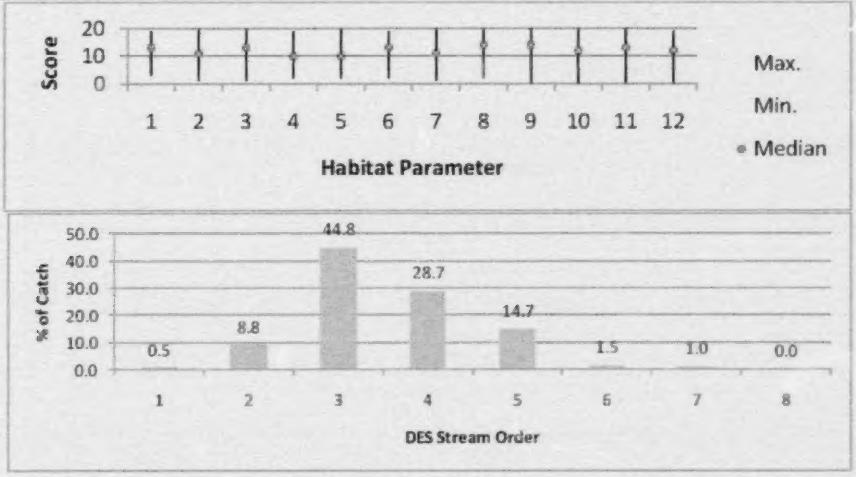
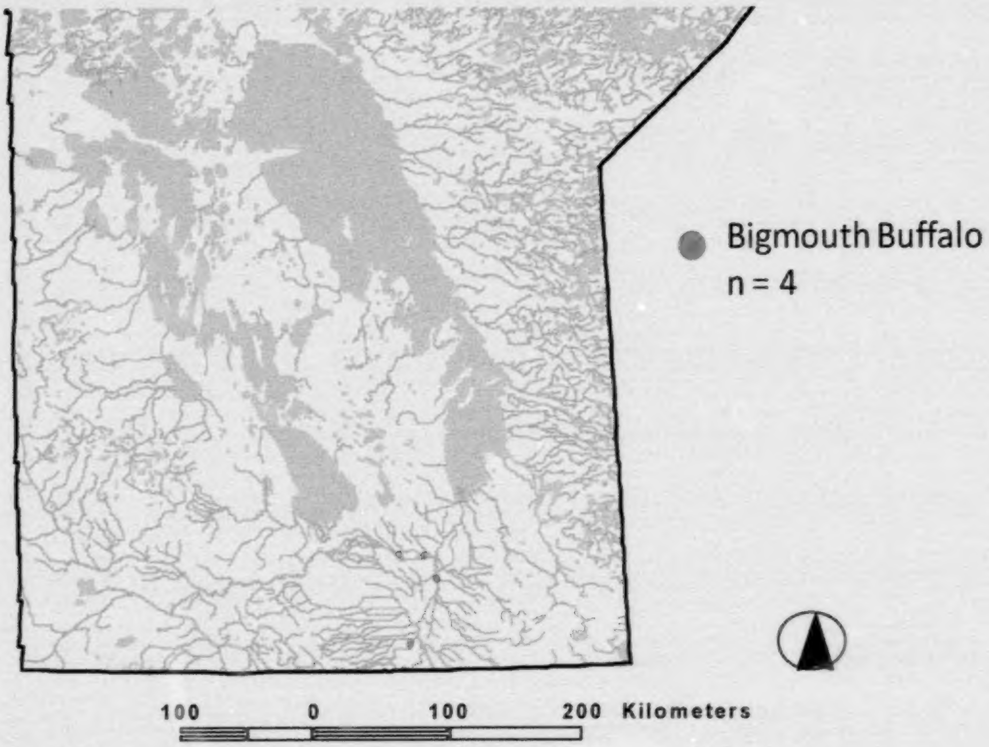


Figure 60: A summary of White Sucker collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Bigmouth Buffalo
n = 4
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Bigmouth Buffalo	3	91	106	75	31	262	270	16

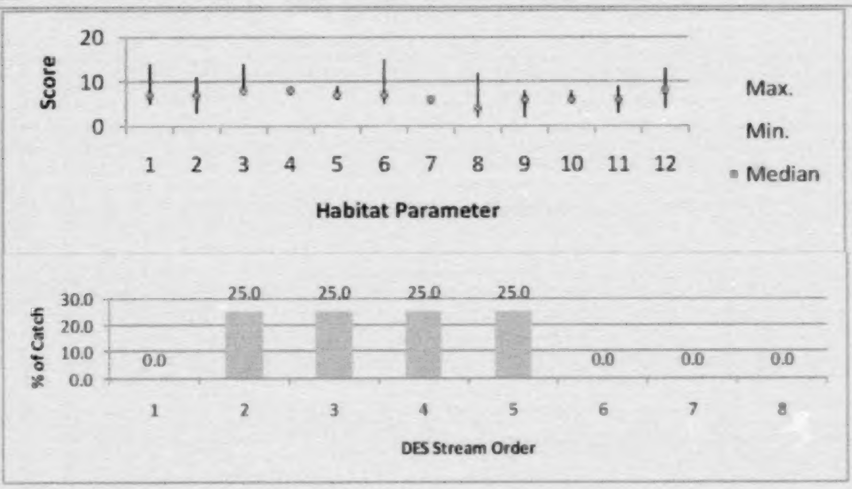
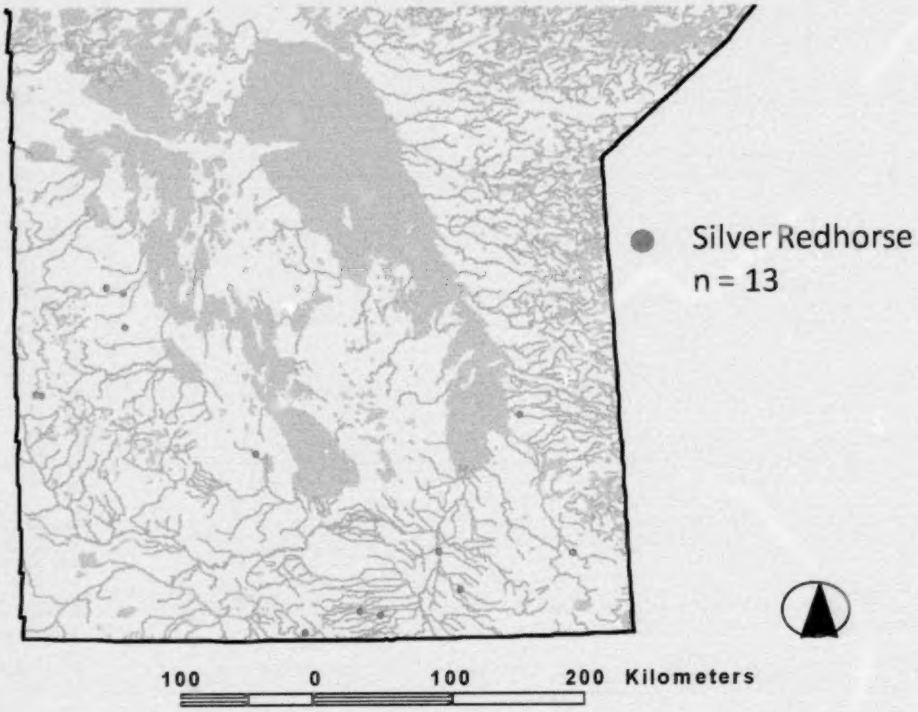


Figure 61: A summary of Bigmouth Buffalo collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Silver Redhorse
n = 13
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Silver Redhorse	13	161	206	106	100	2020	1030	32

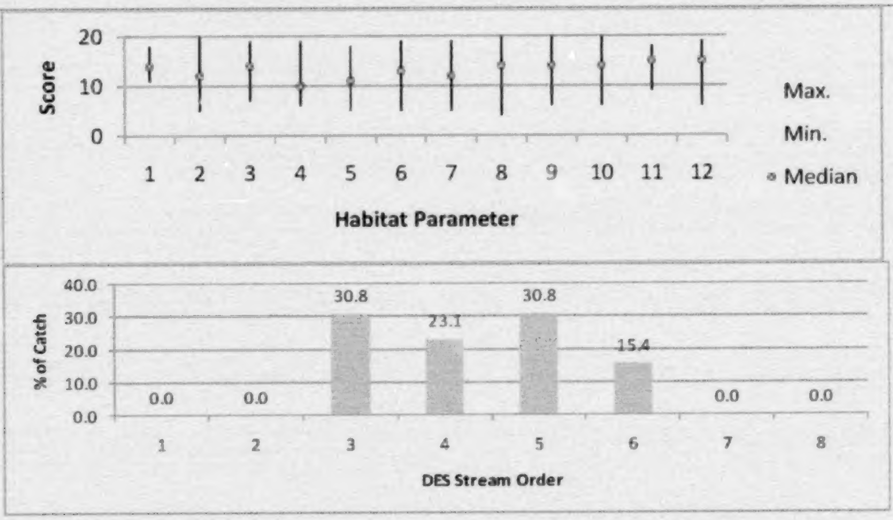
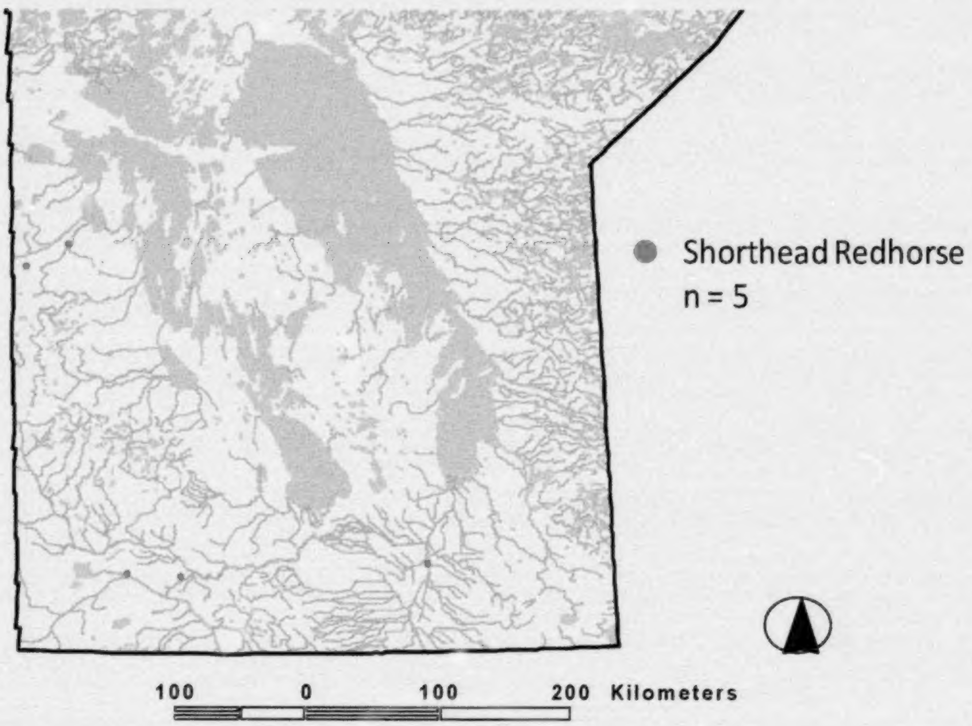
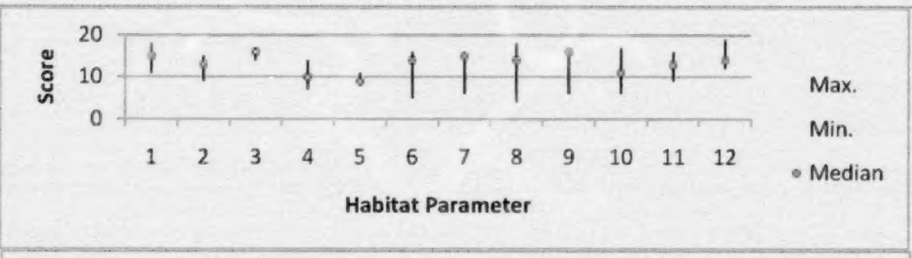


Figure 62: A summary of Silver Redhorse collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Shorthead Redhorse
n = 5
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Shorthead Redhorse	5	159	185	106	79	773	1021	32



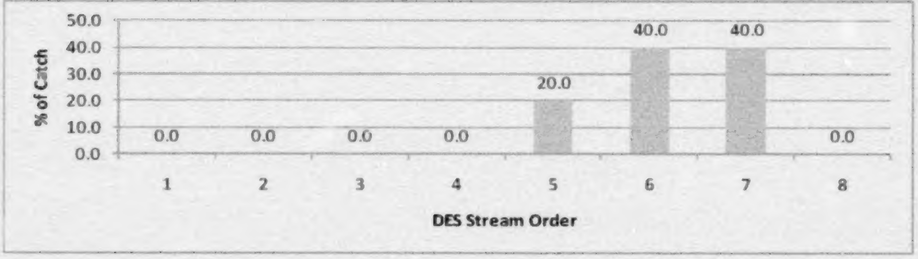
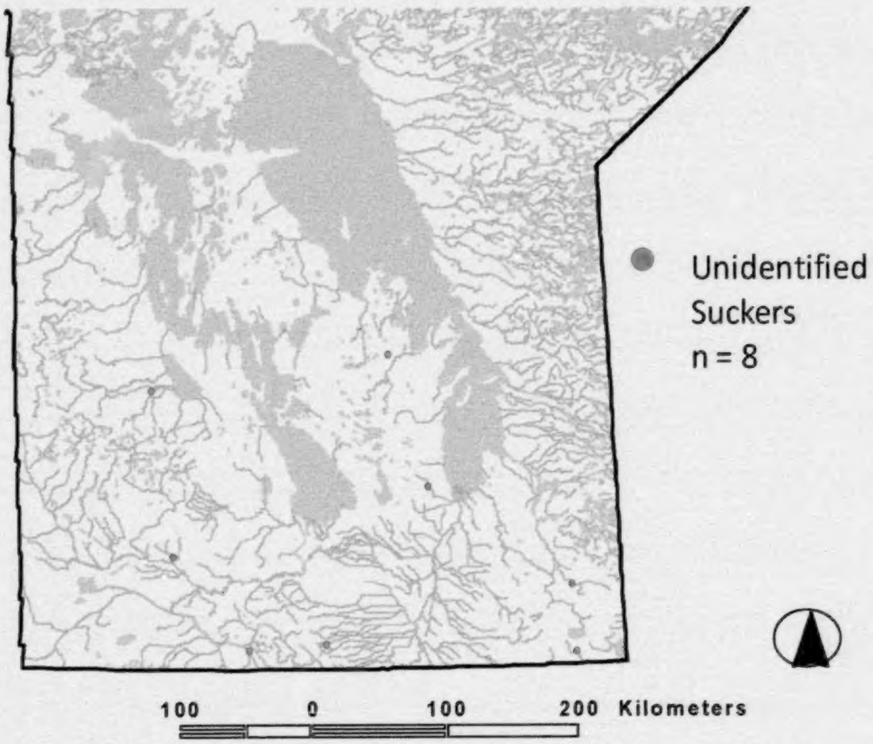


Figure 63: A summary of Shorthead Redhorse collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Unidentified Suckers
n = 8
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Unidentified Suckers	8	152	174	93	81	1134	690	26

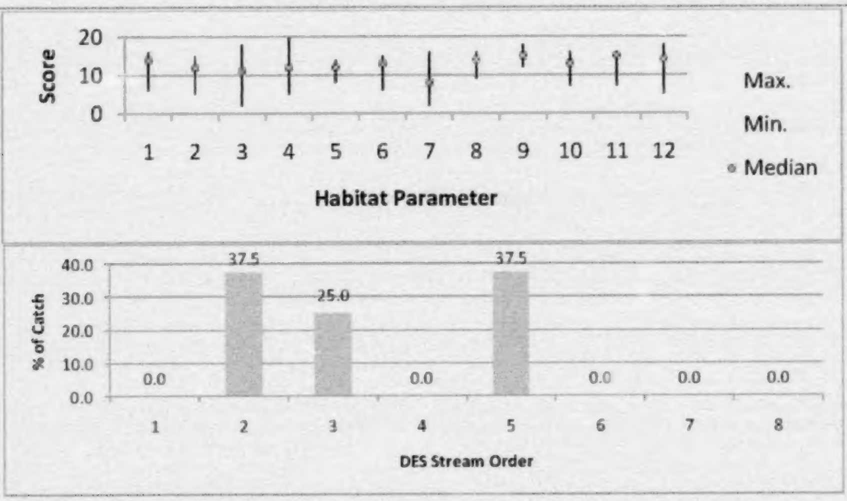
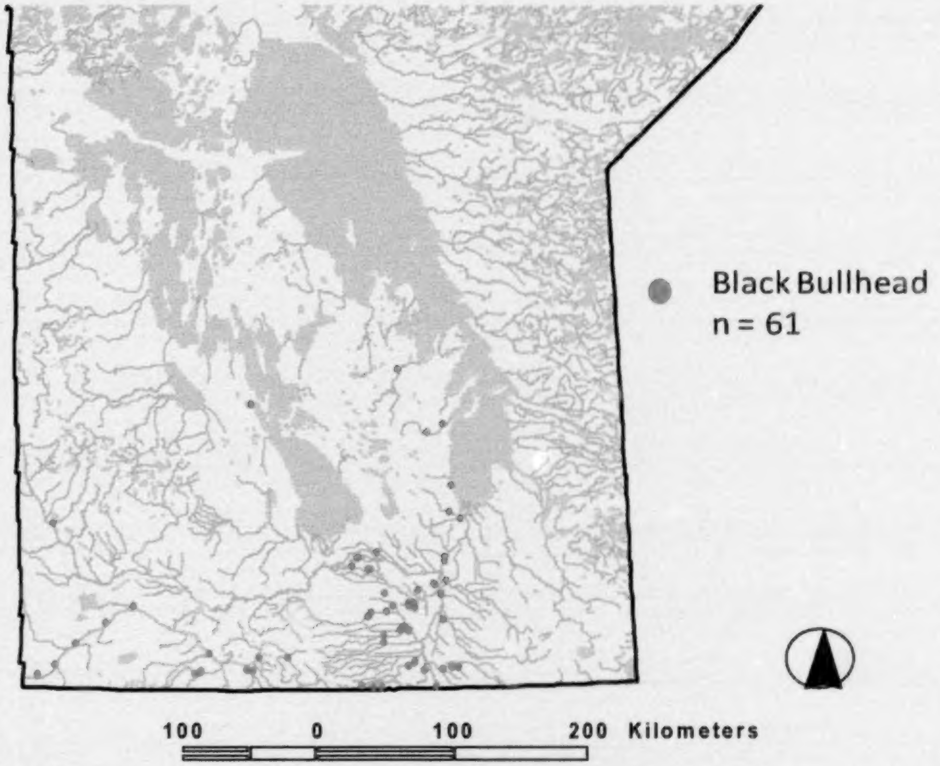


Figure 64: A summary of unidentified sucker collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Black Bullhead
n = 61
100 0 100 200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Black Bullhead	57	122	186	64	122	7094	942	31

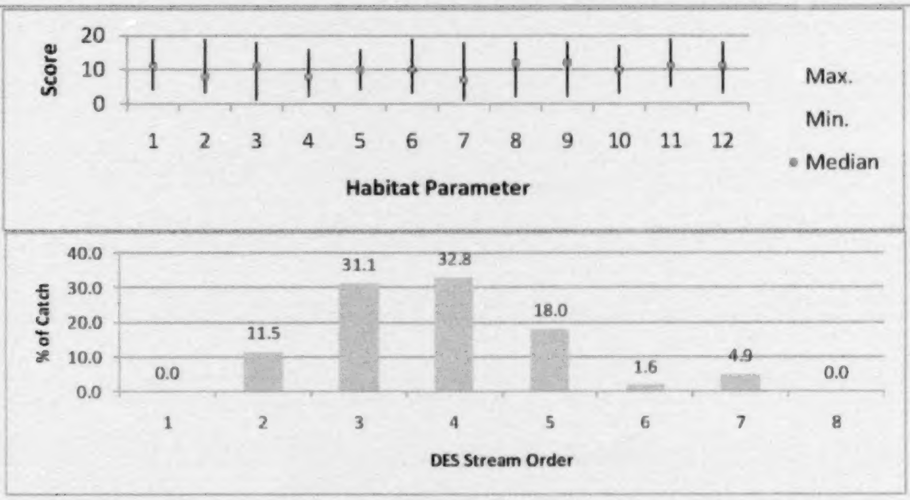
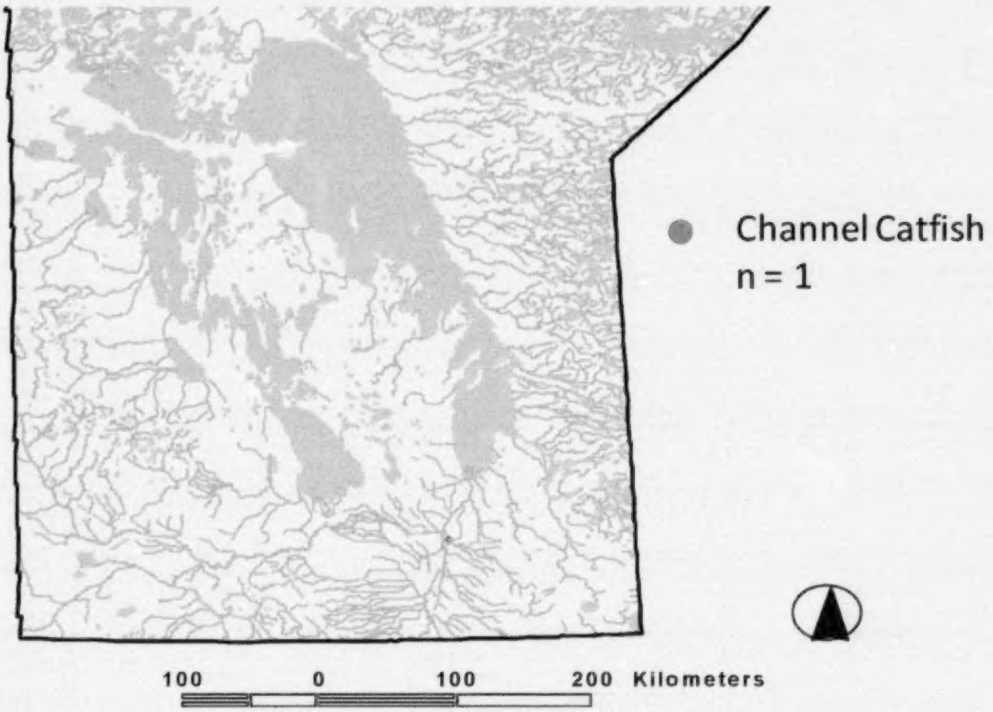


Figure 65: A summary of Black Bullhead collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Channel Catfish
n = 1
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Channel Catfish	1	112	112	112	0	112	0	0

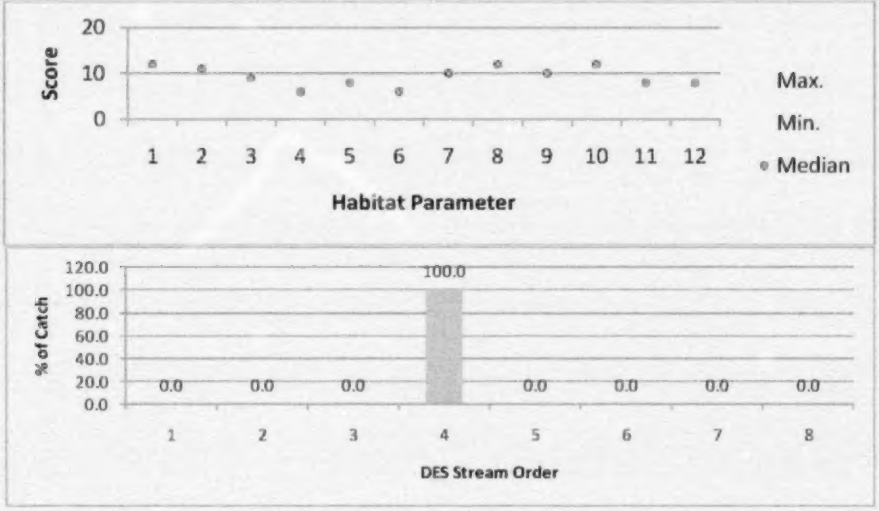
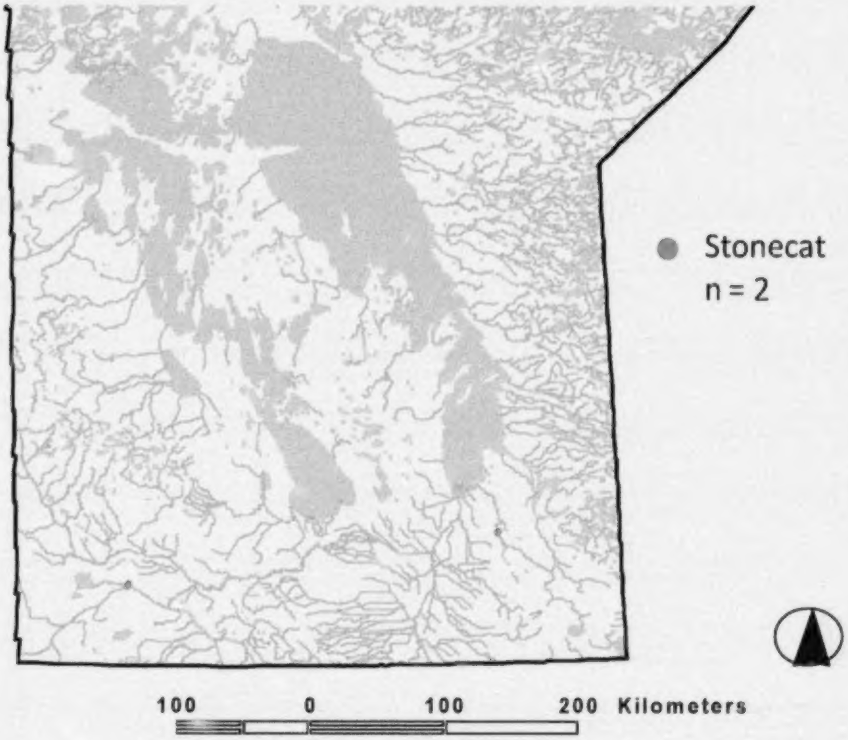
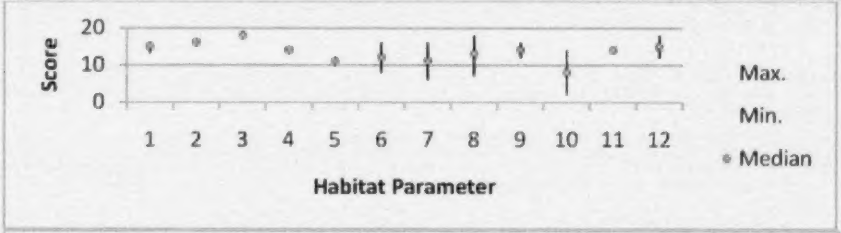


Figure 66: A summary of Channel Catfish collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Stonecat	2	161	185	132	53	317	1405	37



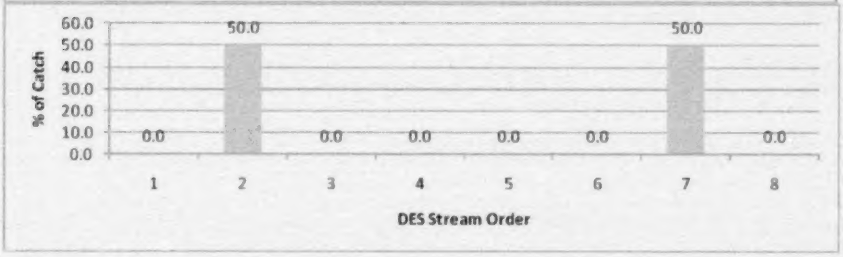
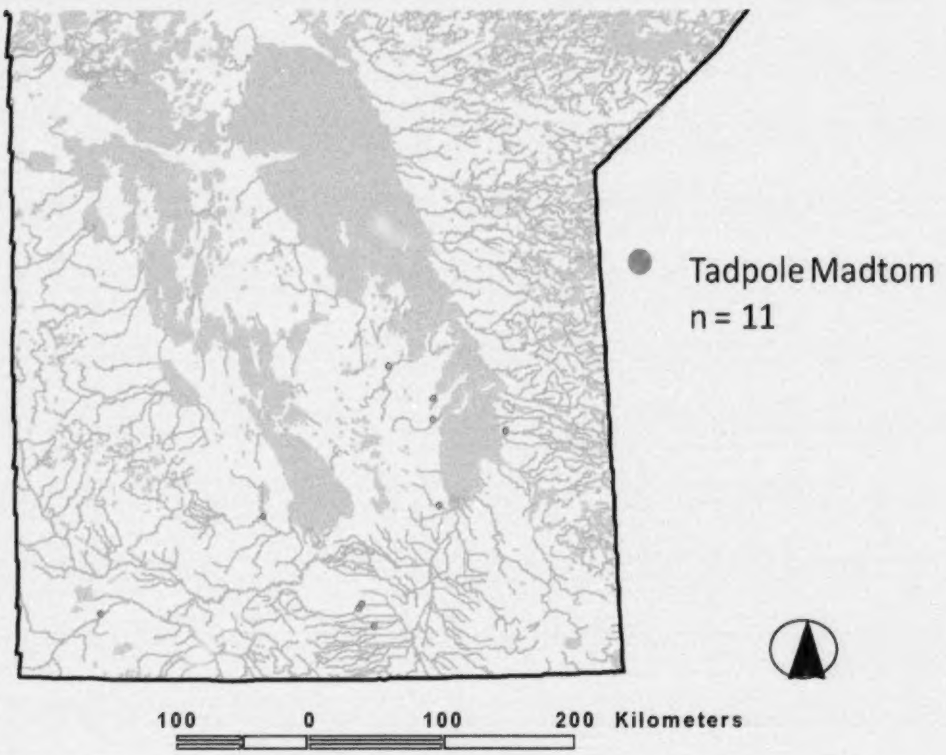


Figure 67: A summary of Stonecat collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Tadpole Madtom
n = 11
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Tadpole Madtom	8	161	185	141	44	1301	247	16

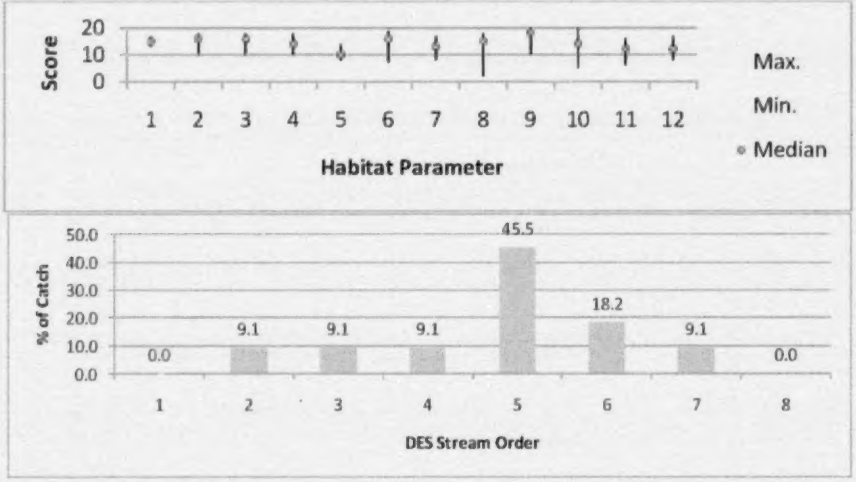
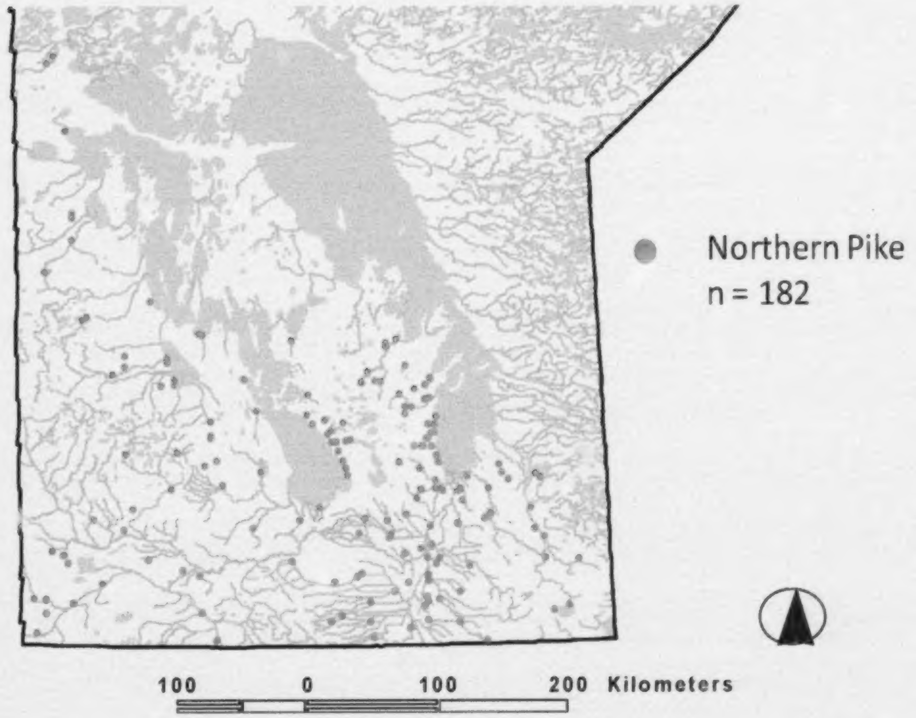


Figure 68: A summary of Tadpole Madtom collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Northern Pike	161	122	220	54	166	20242	1092	33

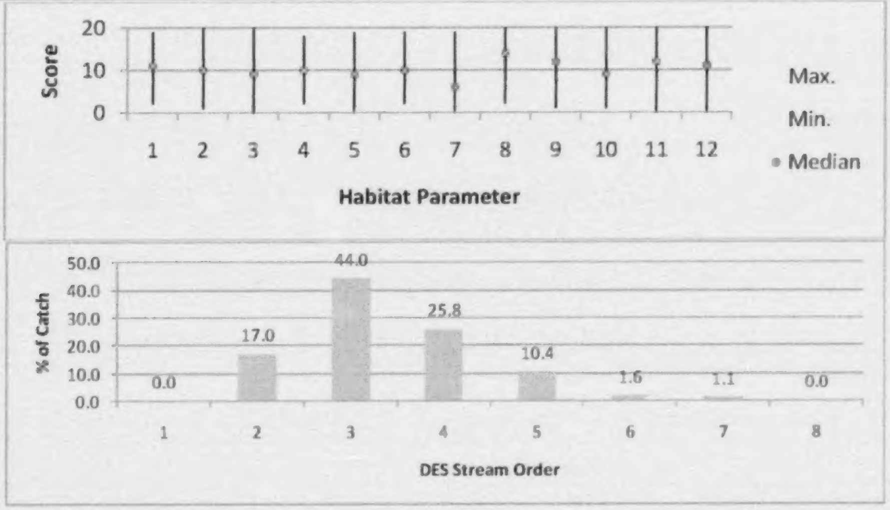
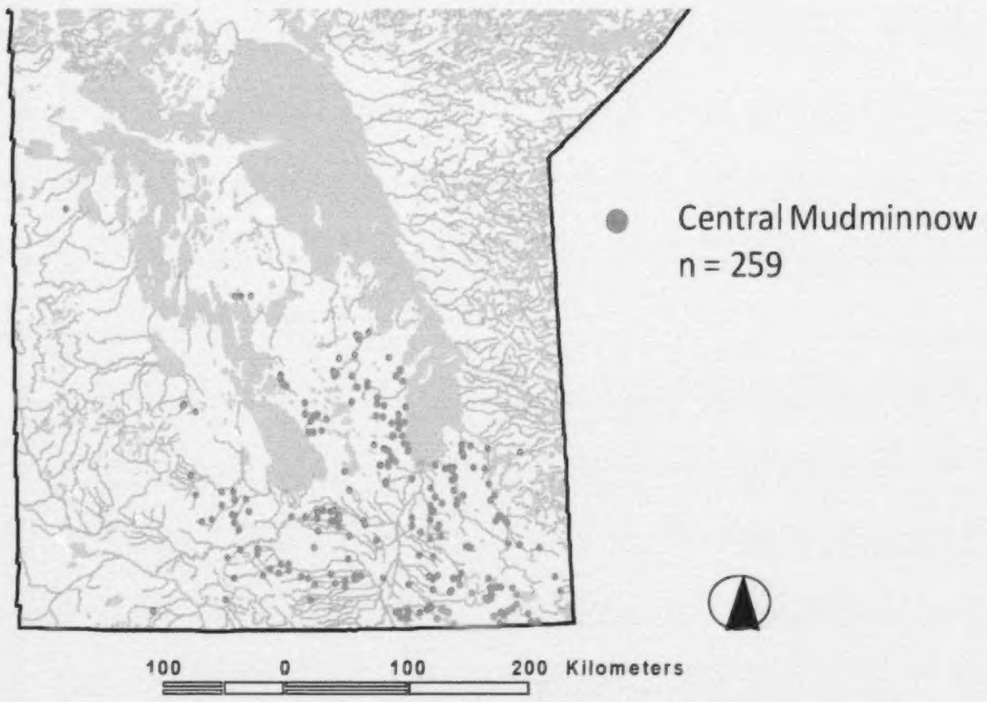


Figure 69: **A summary of Northern Pike collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.**


Central Mudminnow
n = 259
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Central Mudminnow	248	130	225	75	150	33056	927	30

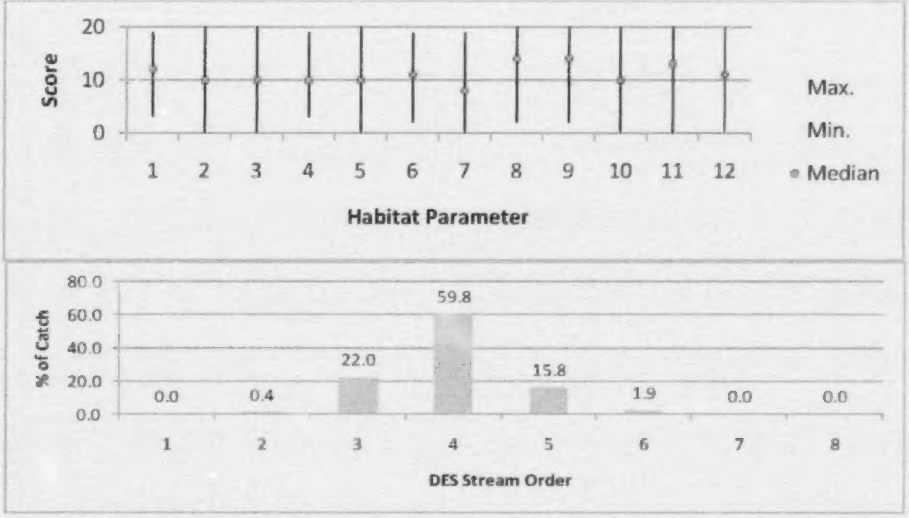
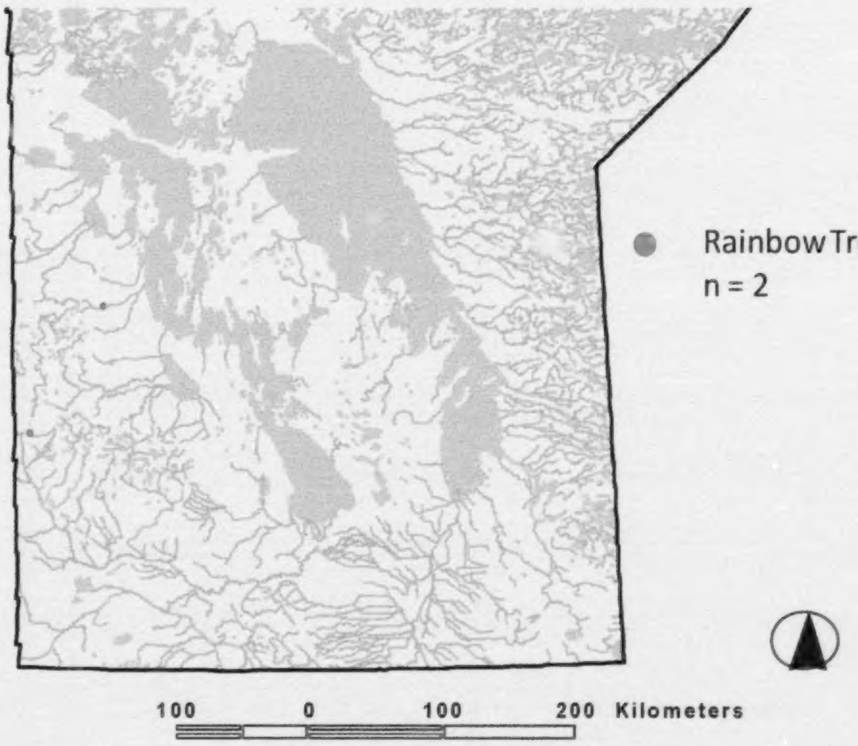


Figure 70: A summary of Central Mudminnow collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Rainbow Trout	2	191	223	158	65	381	2113	46

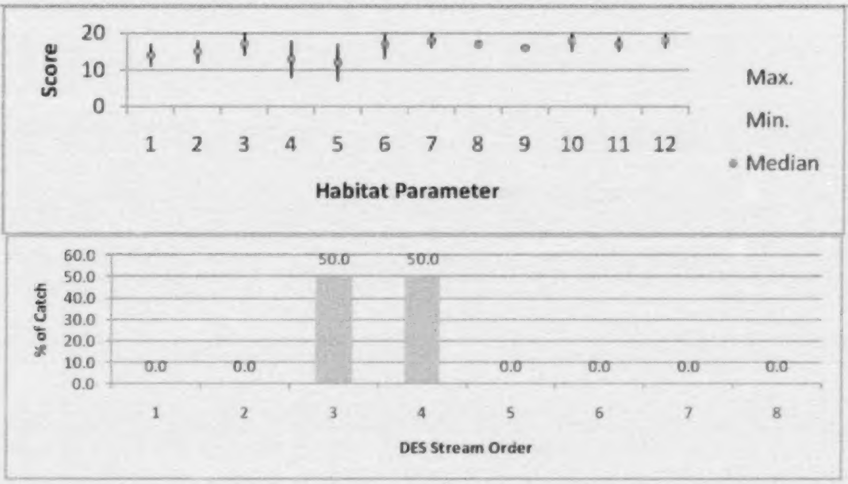
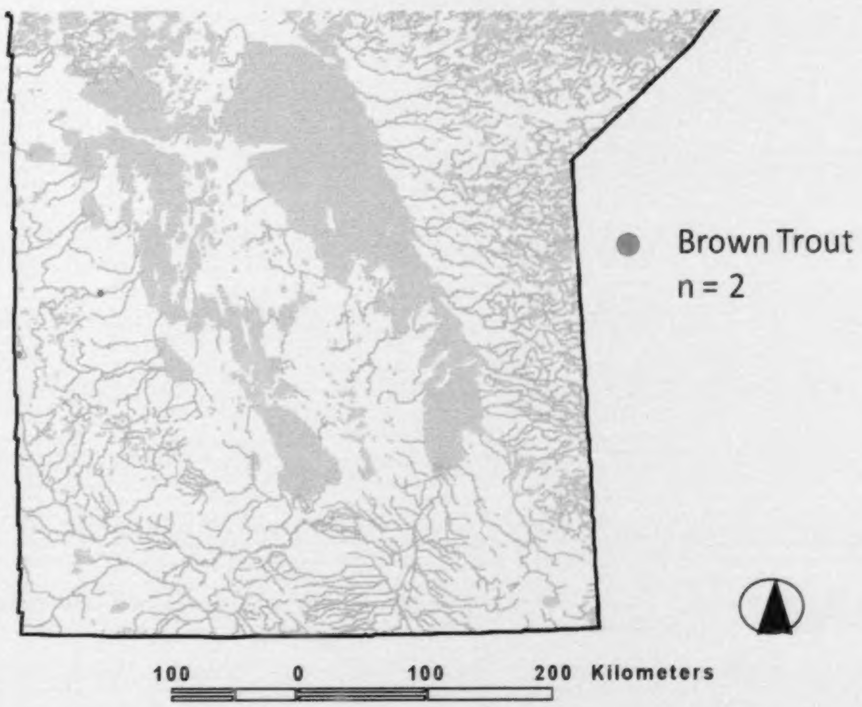


Figure 71: A summary of Rainbow Trout collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Brown Trout
n = 2
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Brown Trout	2	210	223	196	27	419	365	19

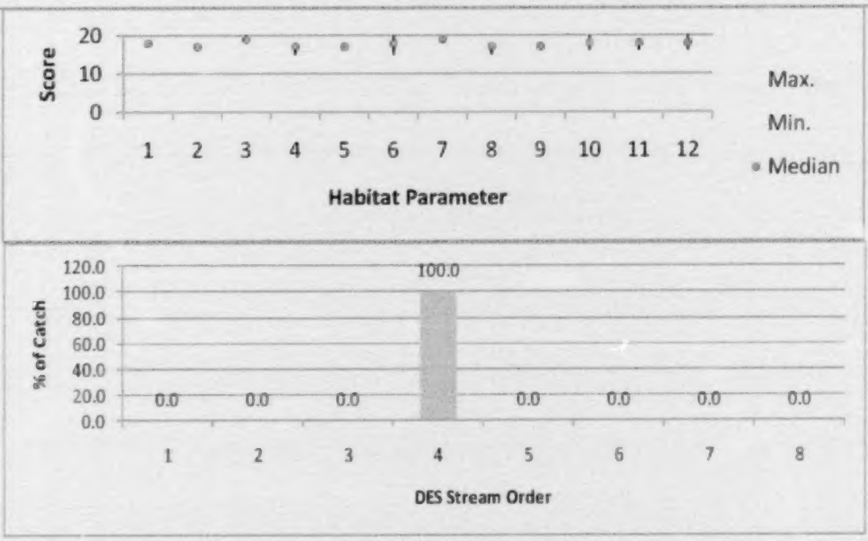
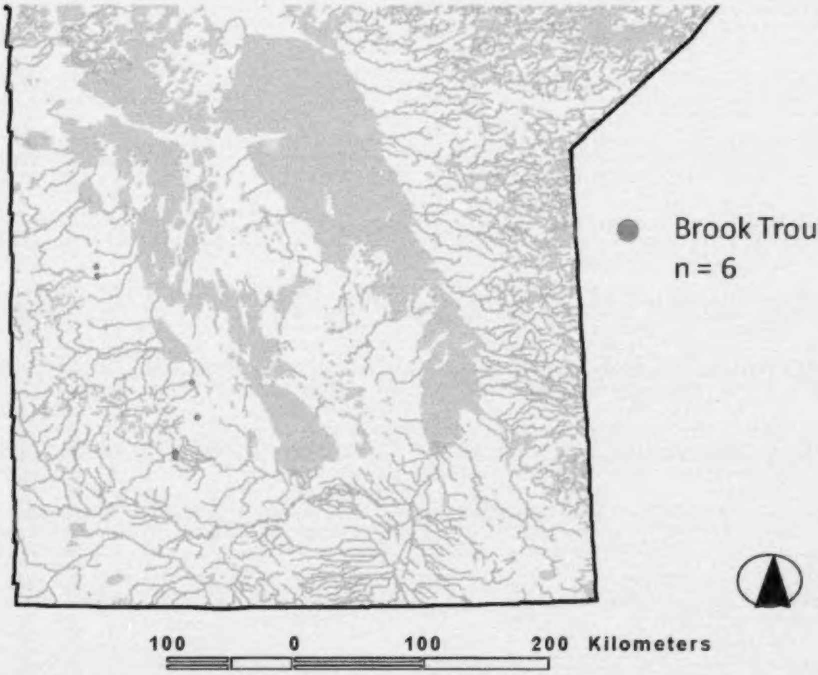


Figure 72: A summary of Brown Trout collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Brook Trout
n = 6
100 0 100 200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Brook Trout	6	180	223	142	81	1079	747	27

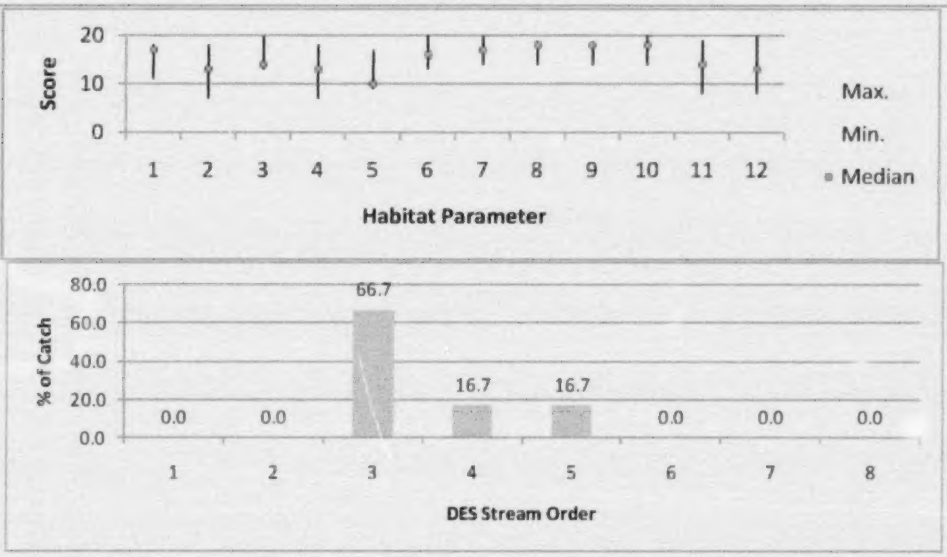
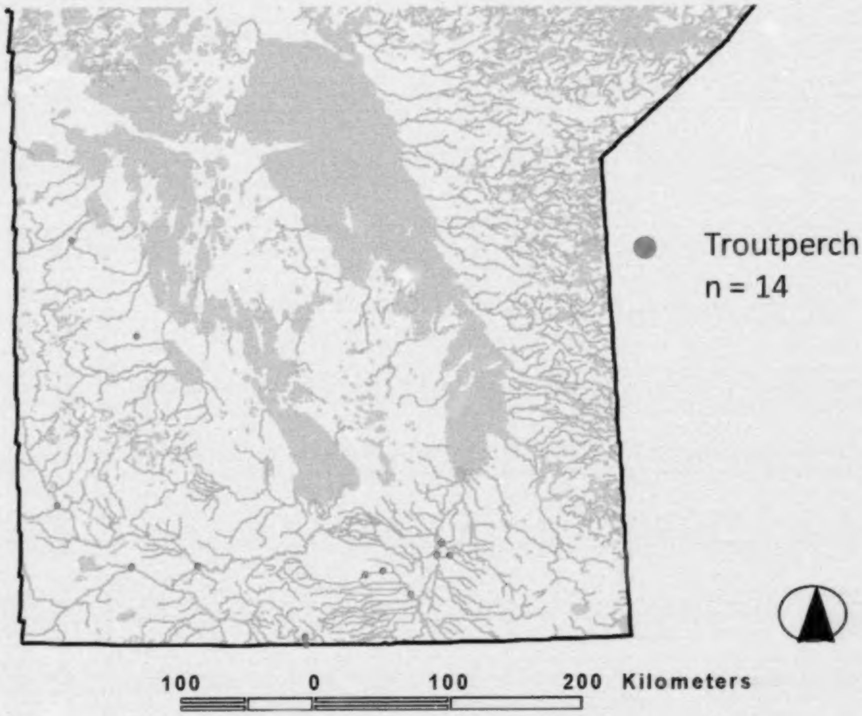


Figure 73: A summary of Brook Trout collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Troutperch
n = 14
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Troutperch	14	135	187	106	81	1967	690	26

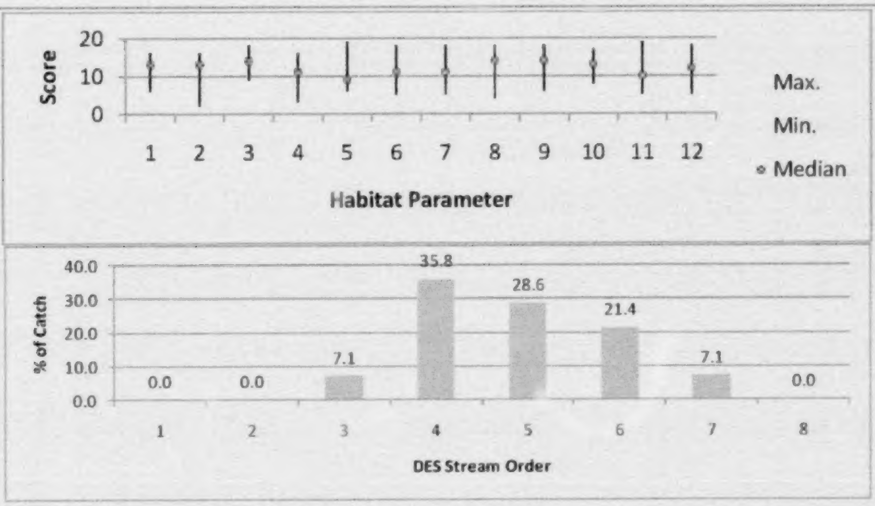
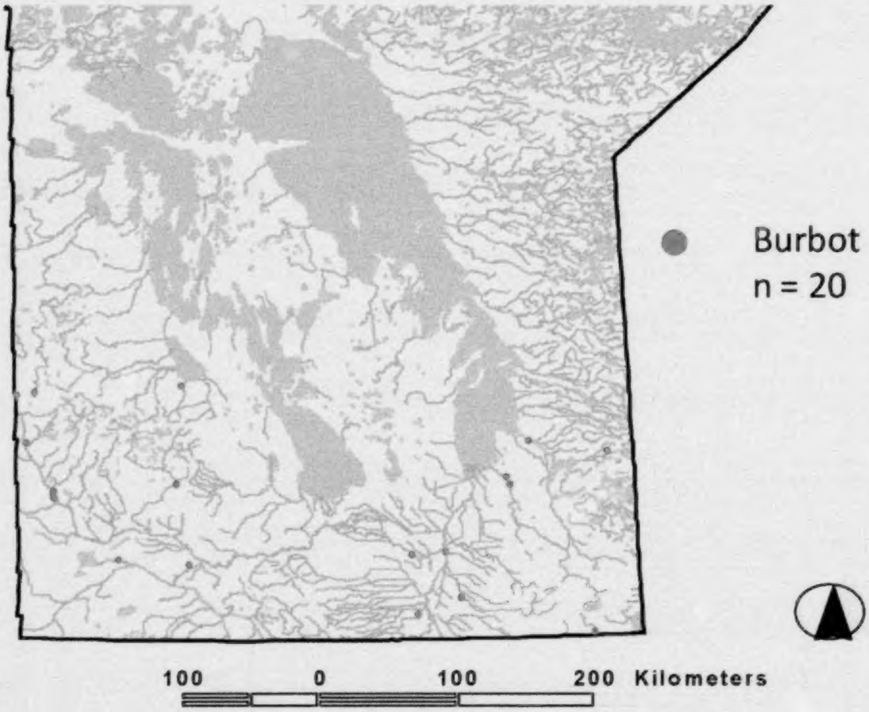


Figure 74: A summary of Troutperch collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Burbot	19	154	220	81	139	2934	1378	37

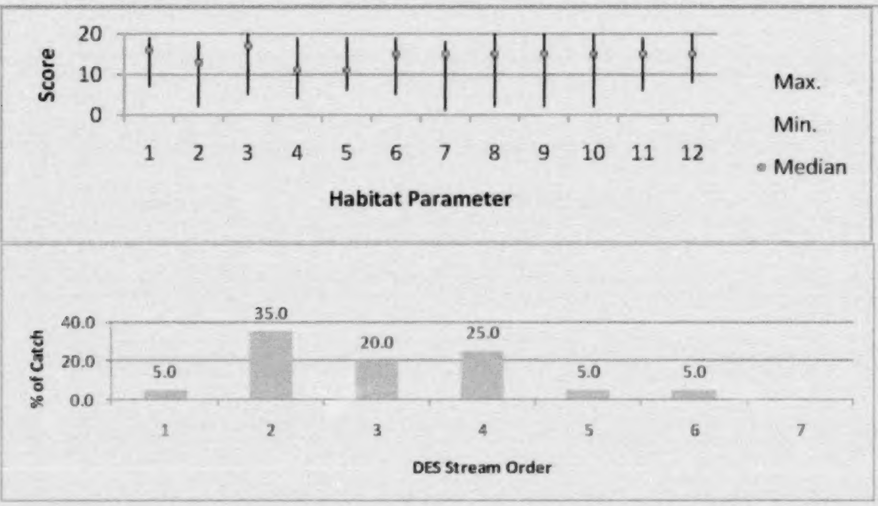
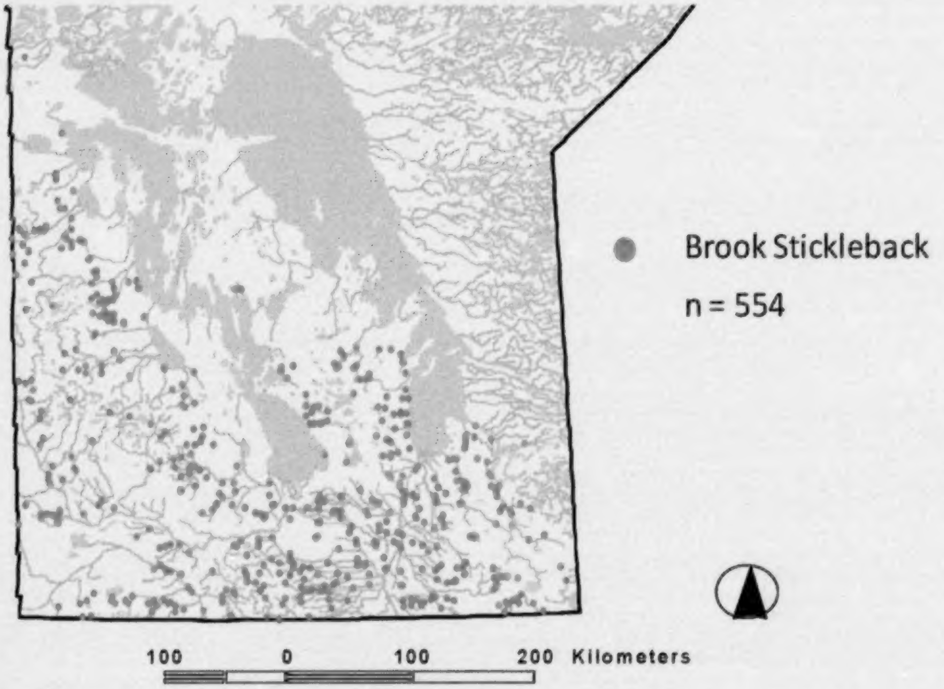


Figure 75: A summary of Burbot collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Brook Stickleback
n = 554
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Brook Stickleback	527	130	225	42	183	69876	1030	32

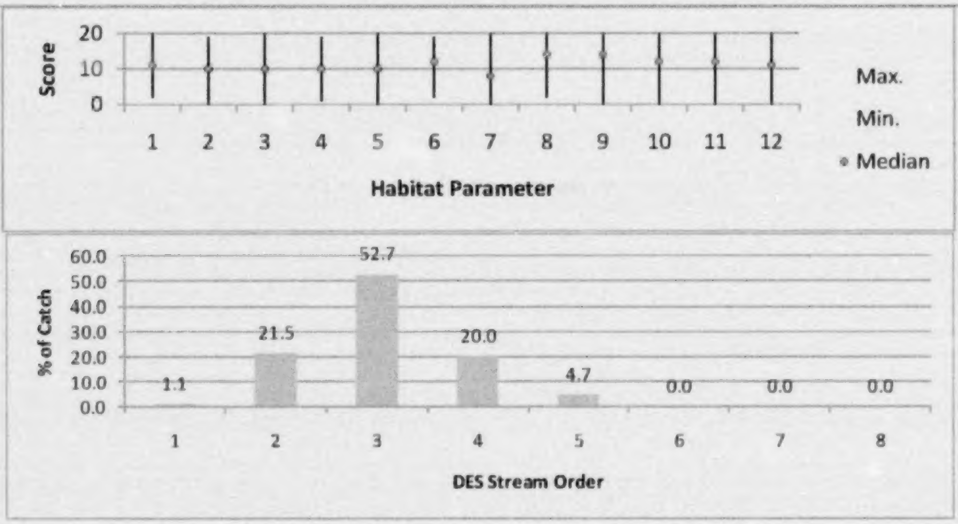
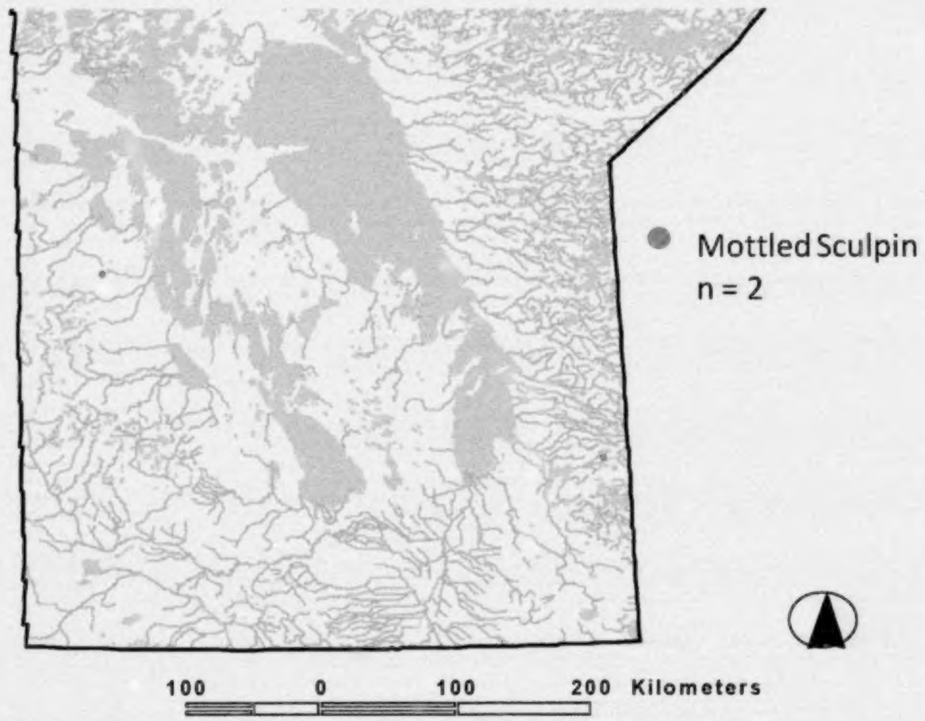


Figure 76: A summary of Brook Stickleback collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Mottled Sculpin
n = 2
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Mottled Sculpin	2	209	220	197	23	417	265	16

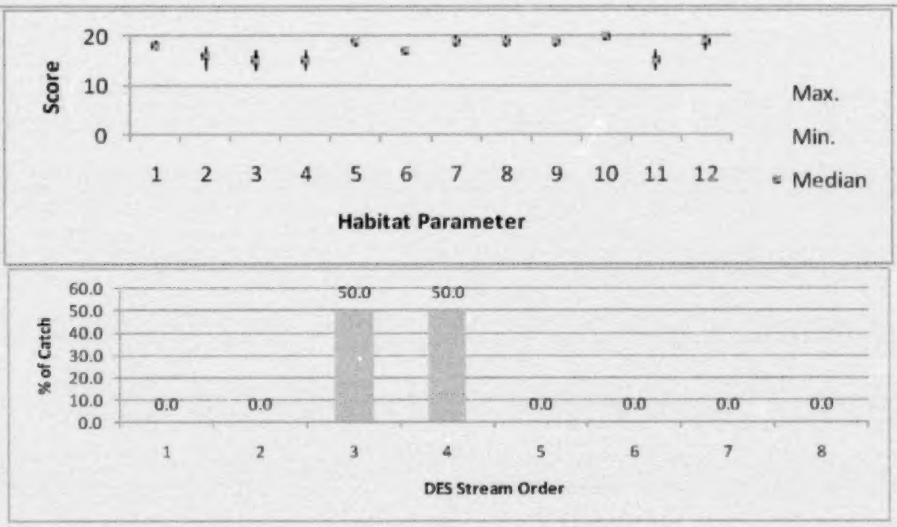
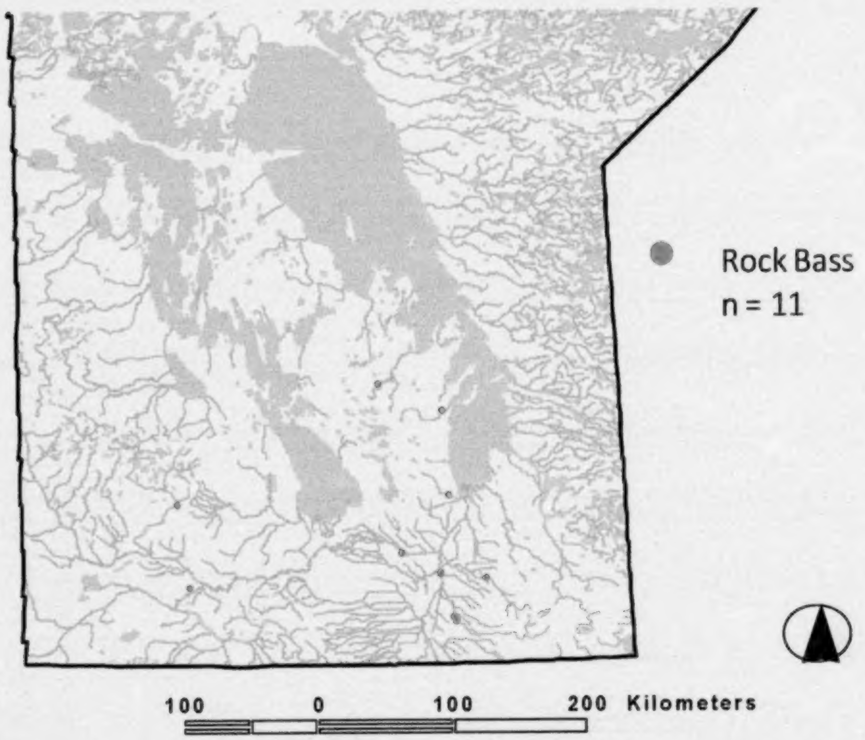


Figure 77: A summary of Mottled Sculpin collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Rock Bass	10	142	180	72	108	1355	1358	37

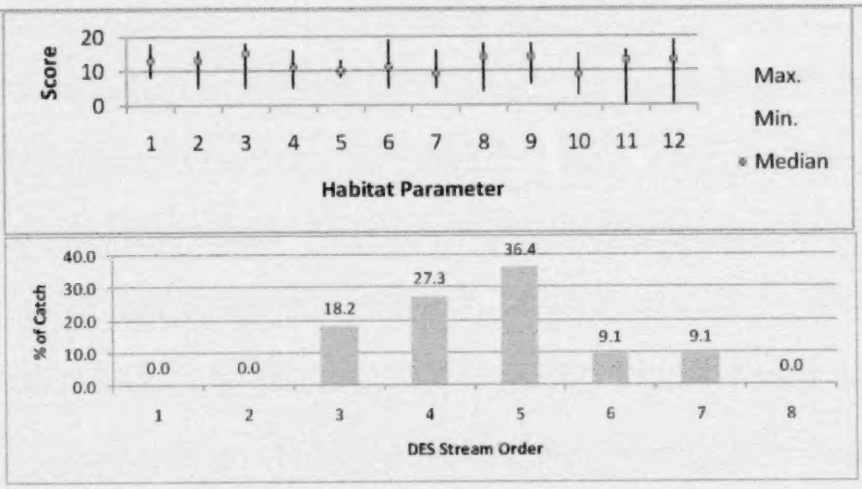
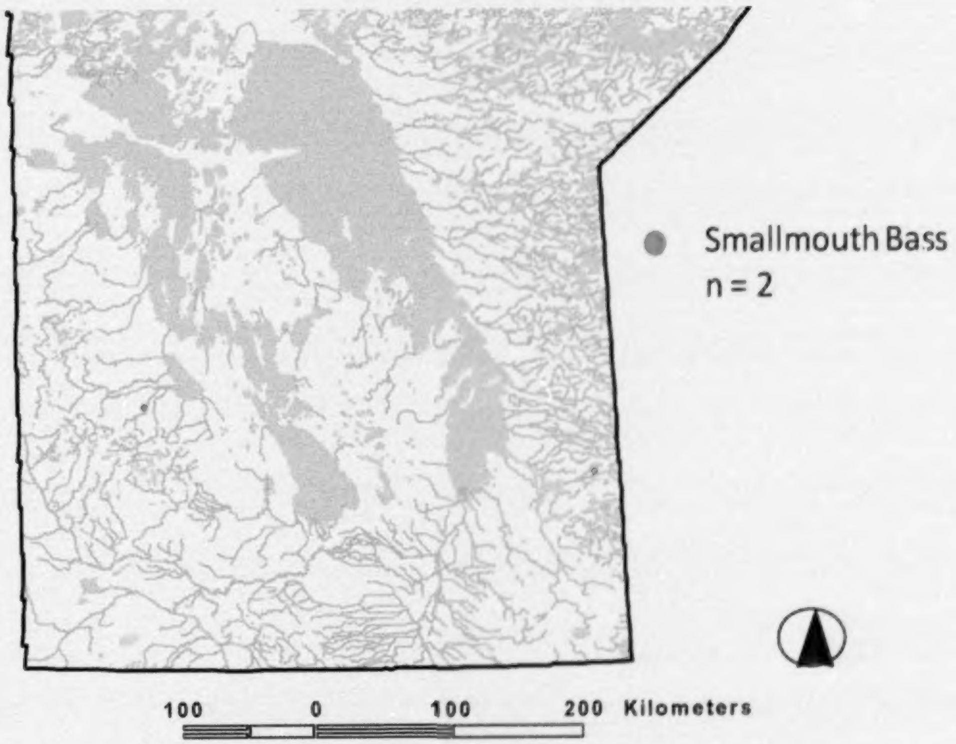
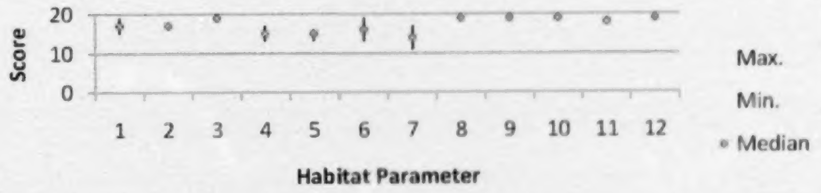


Figure 78: **A summary of Rock Bass collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.**


● Smallmouth Bass
n = 2
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Smallmouth Bass	2	206	220	192	28	412	392	20



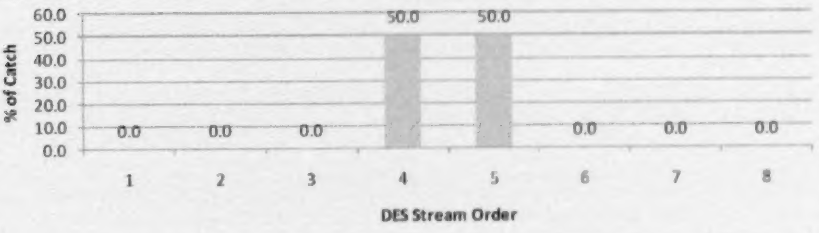
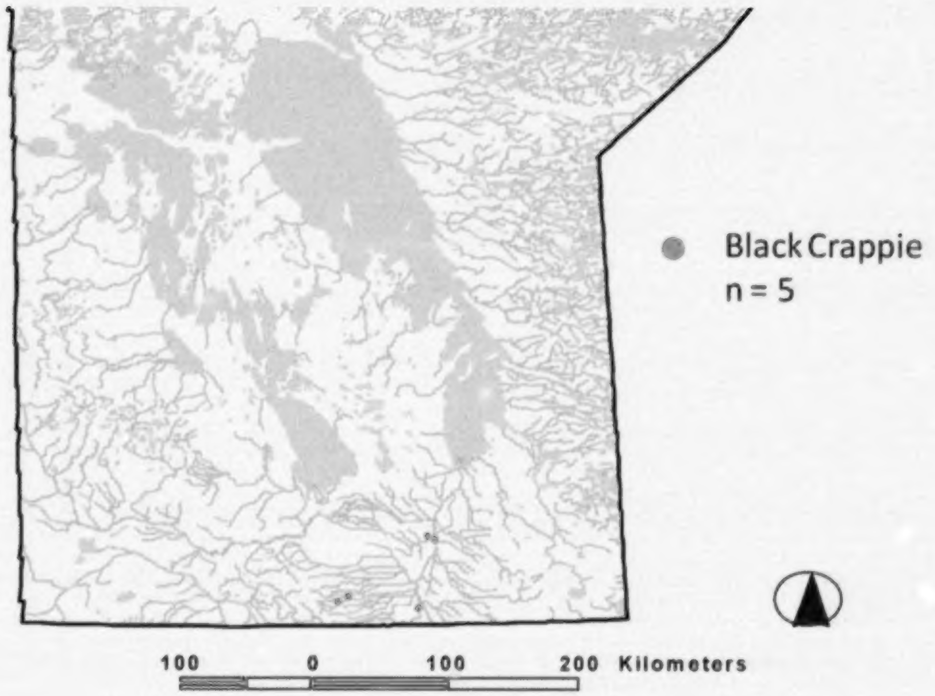
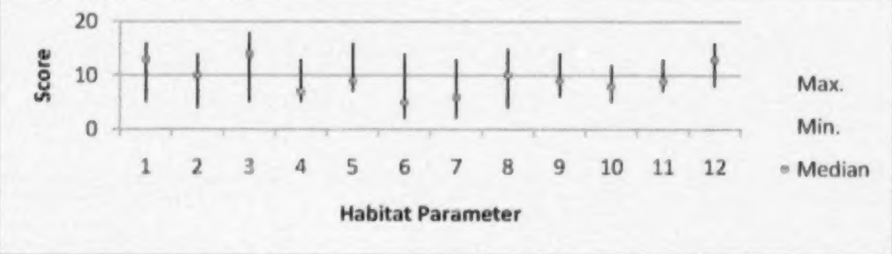


Figure 79: A summary of Smallmouth Bass collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Black Crappie
n = 5
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Black Crappie	5	114	161	85	76	587	776	28



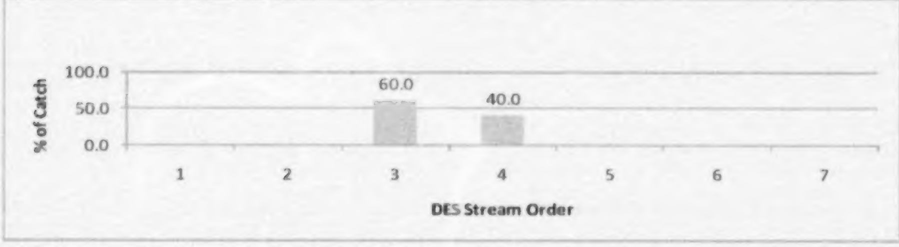
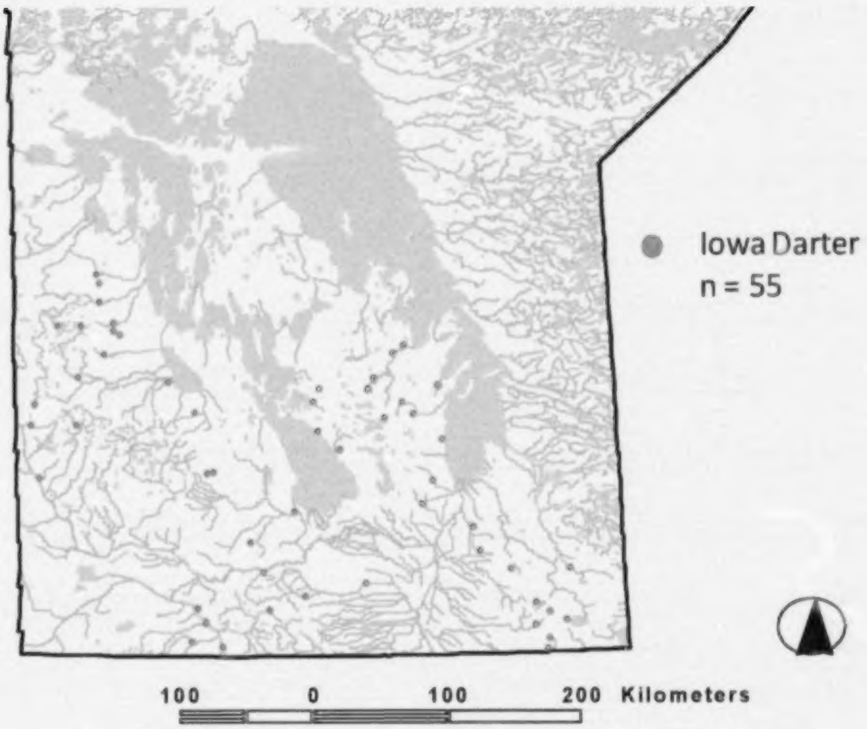


Figure 80: A summary of Black Crappie collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Iowa Darter
n = 55
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Iowa Darter	51	158	215	81	134	7887	1071	33

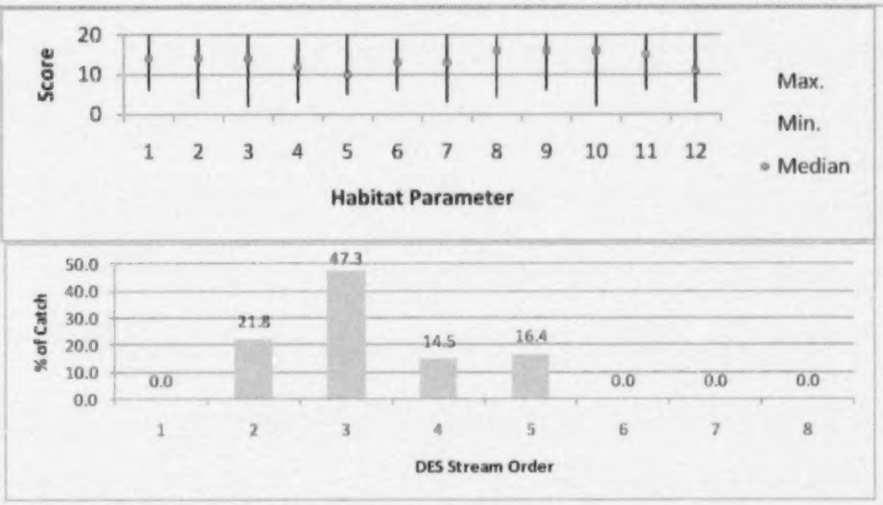
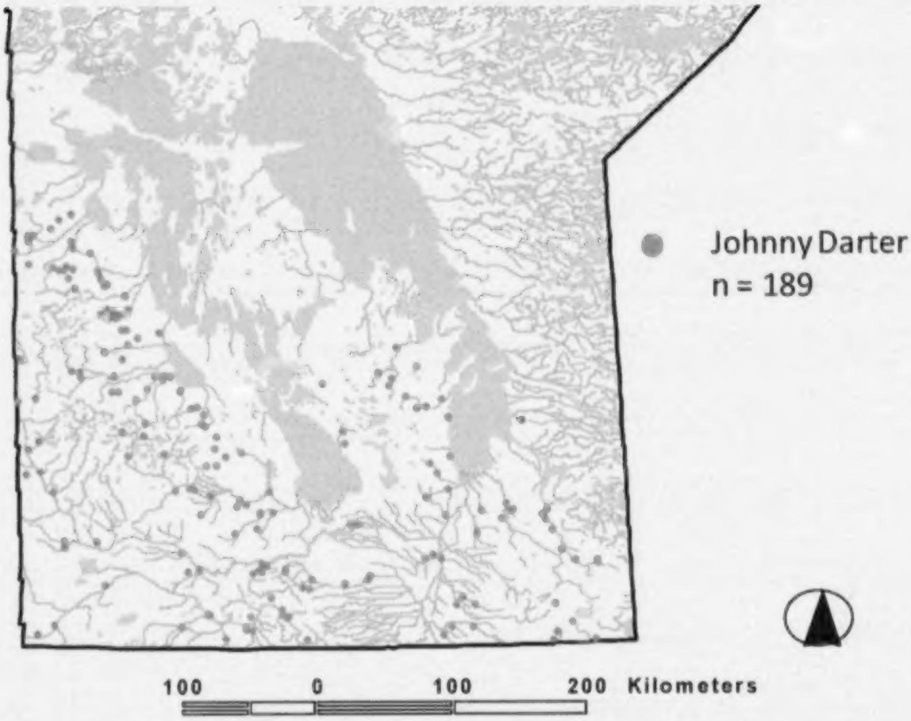
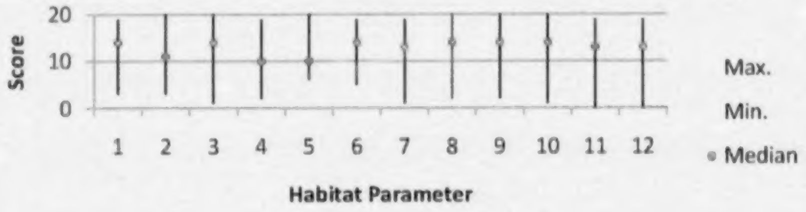


Figure 81: A summary of Iowa Darter collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Johnny Darter
n = 189
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Johnny Darter	179	149	206	49	157	26547	902	30



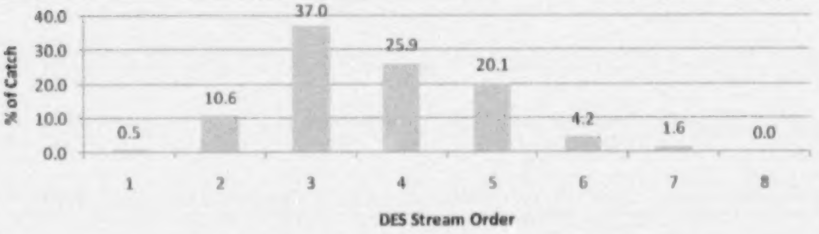
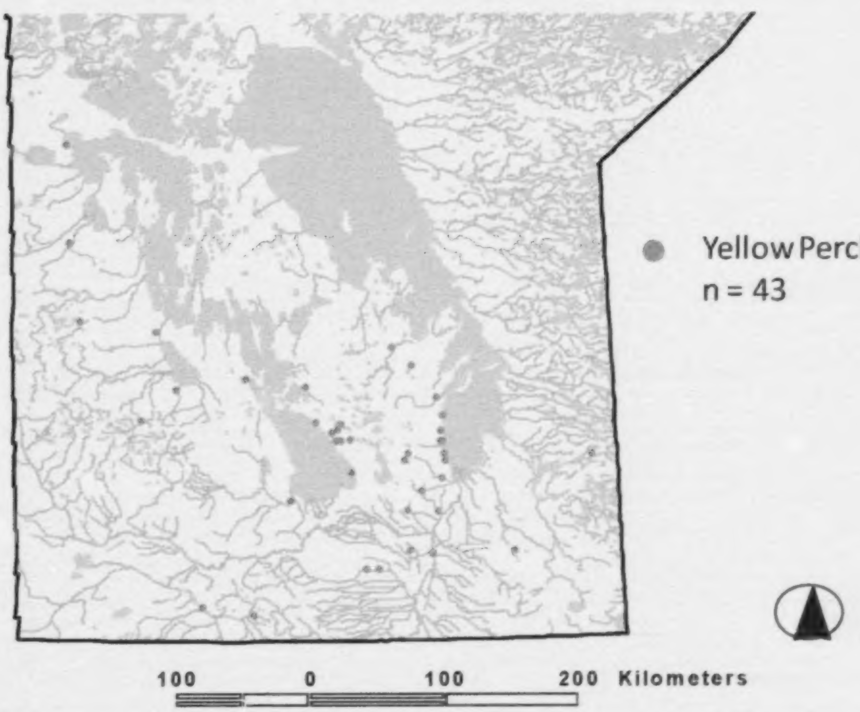
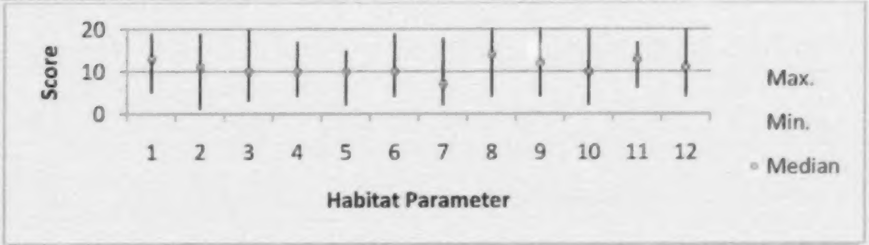


Figure 82: A summary of Johnny Darter collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Yellow Perch
n = 43
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Yellow Perch	40	138	220	87	133	5380	1018	32



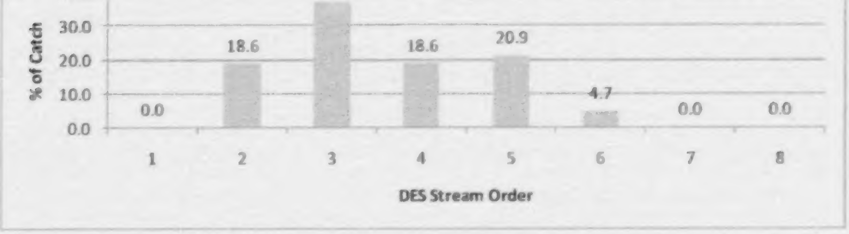
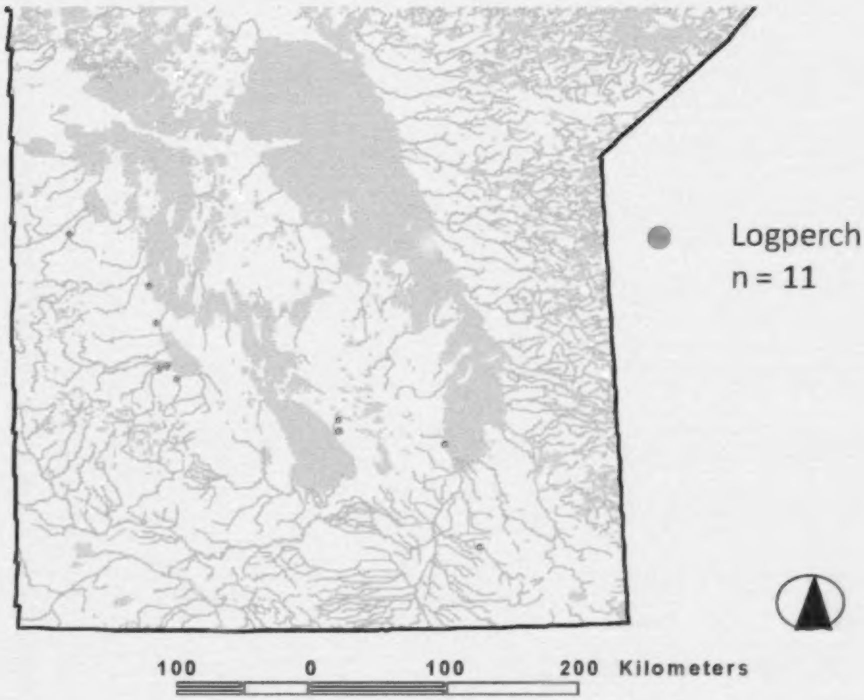


Figure 83: A summary of Yellow Perch collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Logperch	11	143	170	90	80	1496	642	25

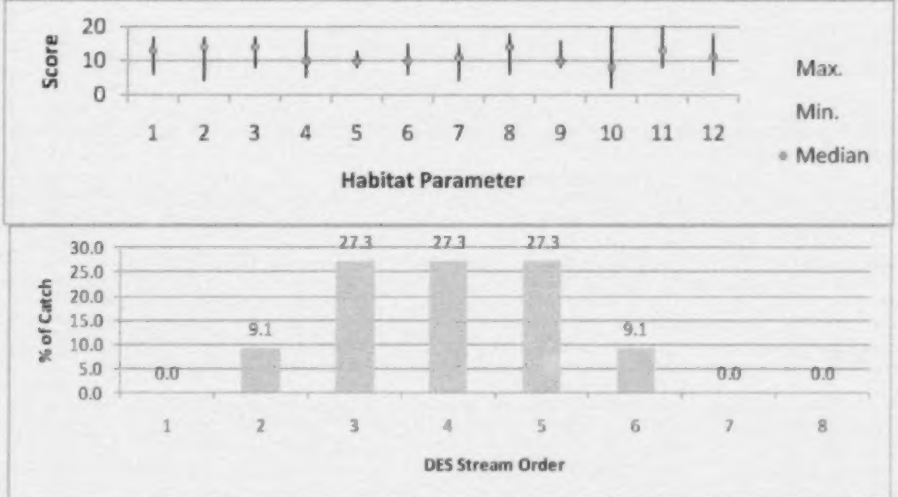
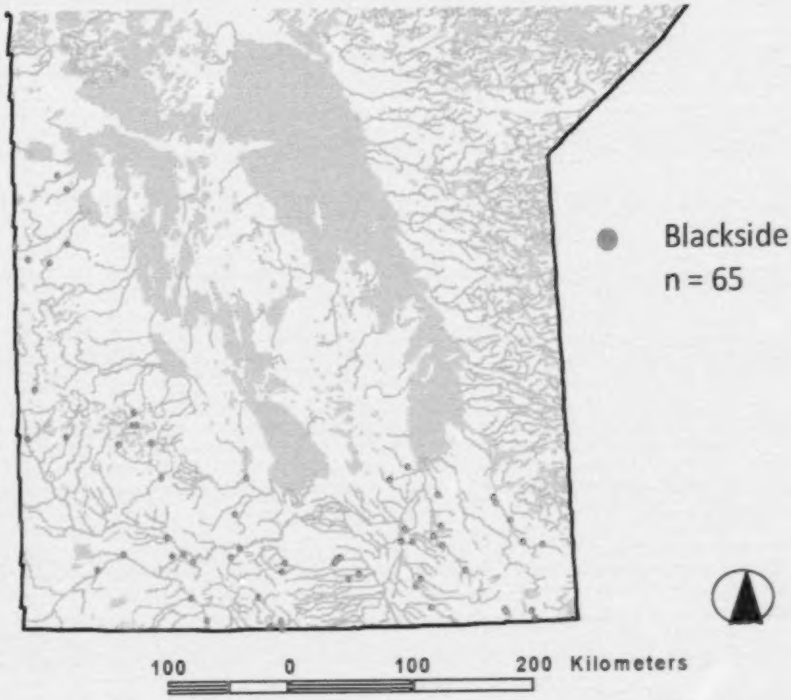


Figure 84: A summary of Logperch collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


● Blackside Darter
n = 65
100 0 100 200 Kilometers

Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
Blackside Darter	59	156	202	94	108	8796	598	24

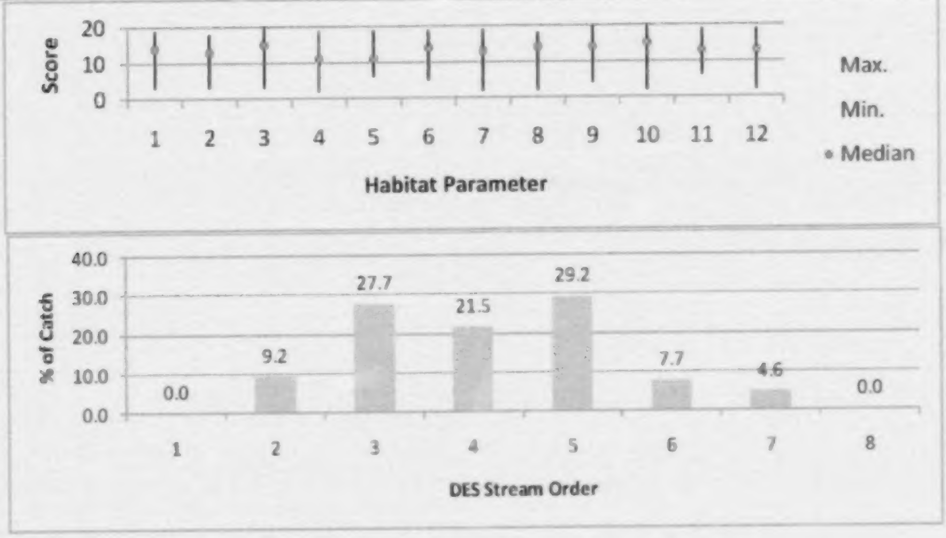
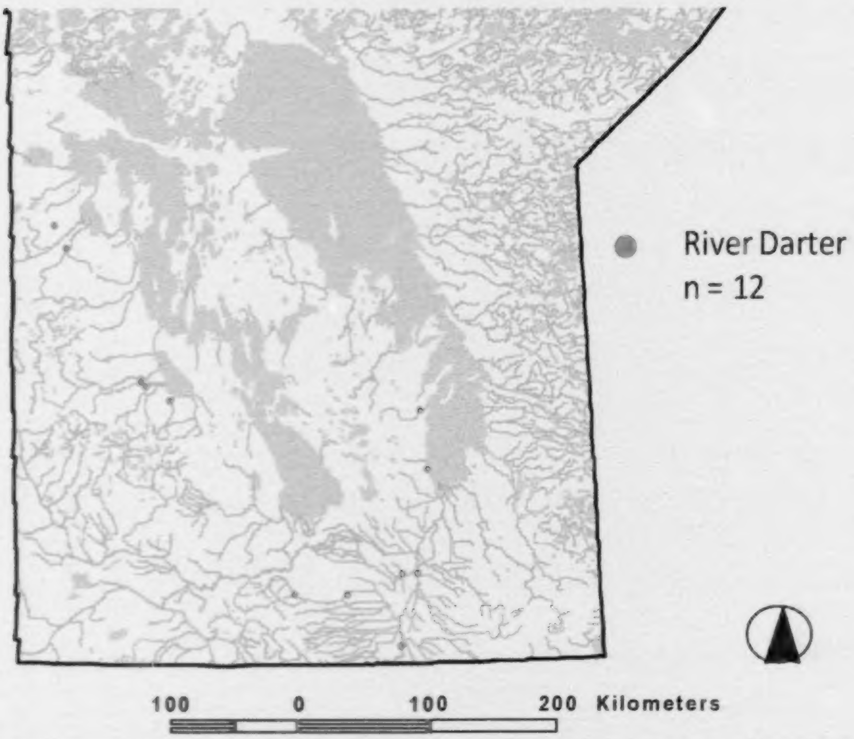
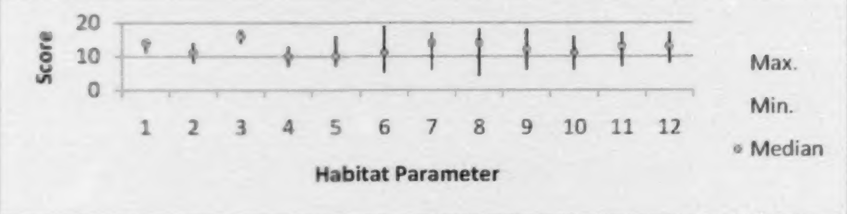


Figure 85: A summary of Blackside Darter collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


River Darter
n = 12
100
0
100
200 Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
River Darter	10	155	169	106	63	1482	463	22



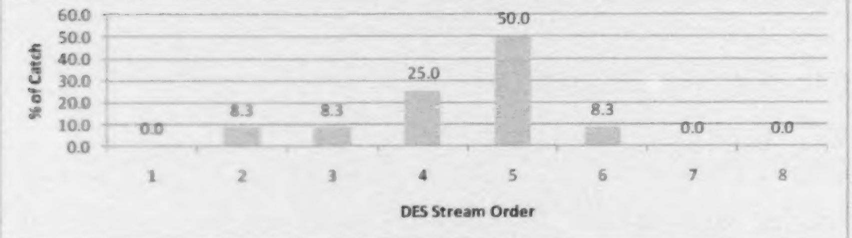
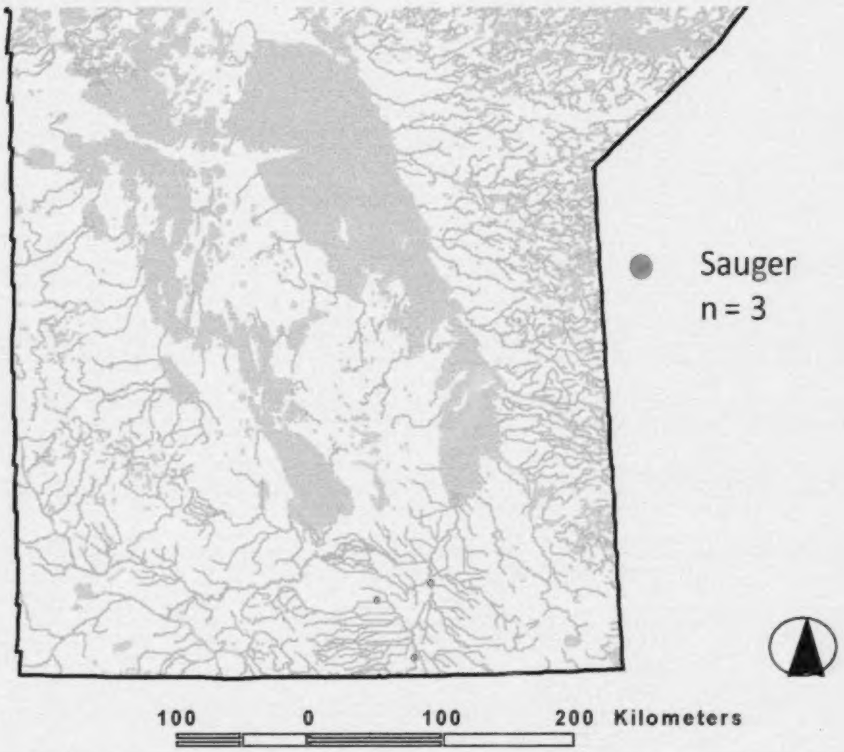


Figure 86: A summary of River Darter collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Sauger	3	114	137	106	31	357	259	16

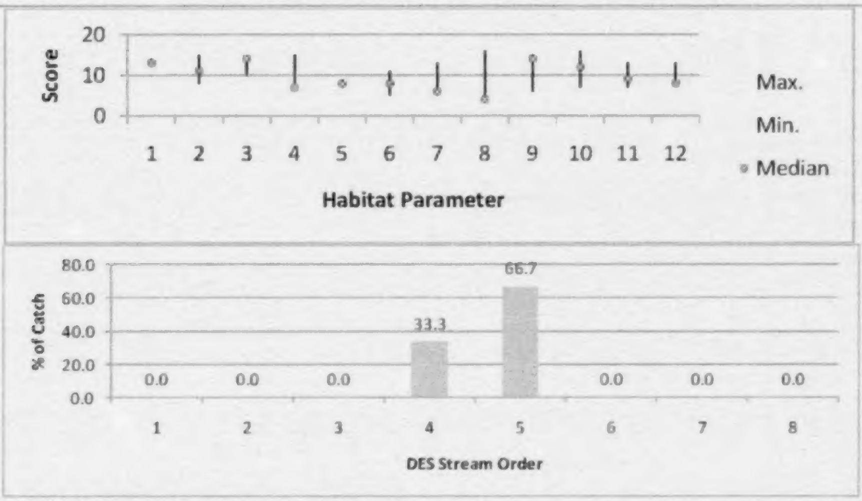
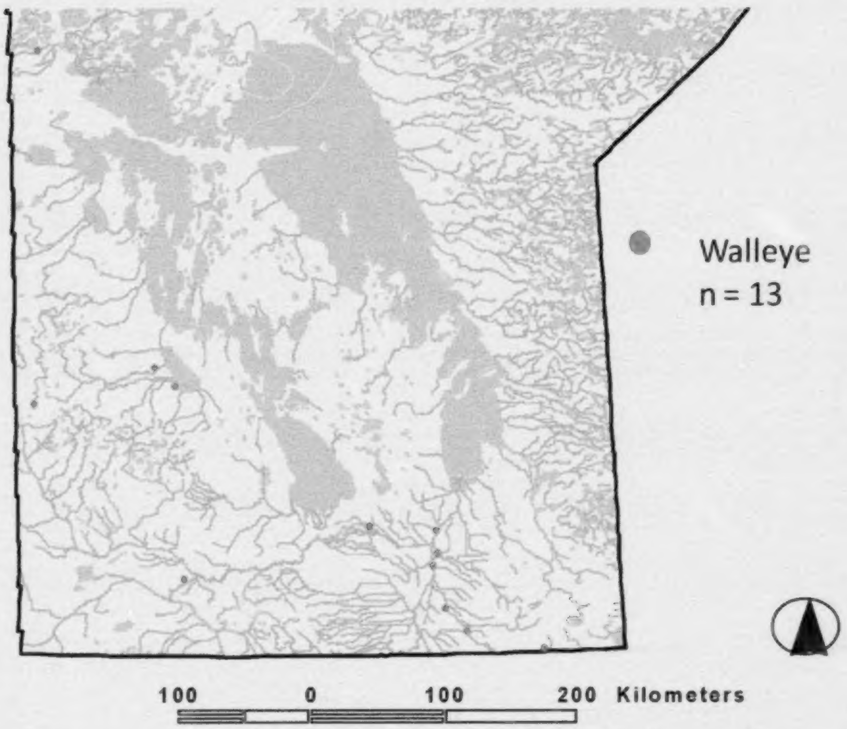


Figure 87: A summary of Sauger collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count	Habitat Assessment Score			Range	Sum	Variance	Standard
	(n)	Med.	Max.	Min.				Deviation
Walleye	10	127	202	96	106	1361	1154	34

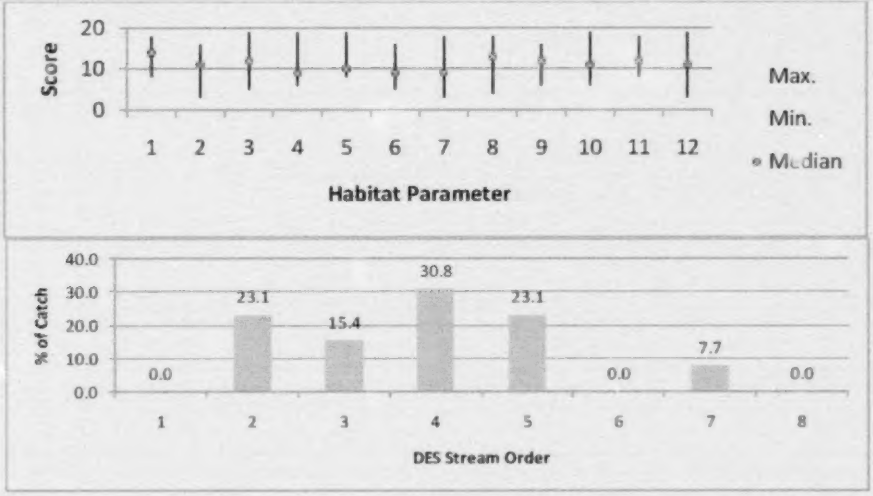
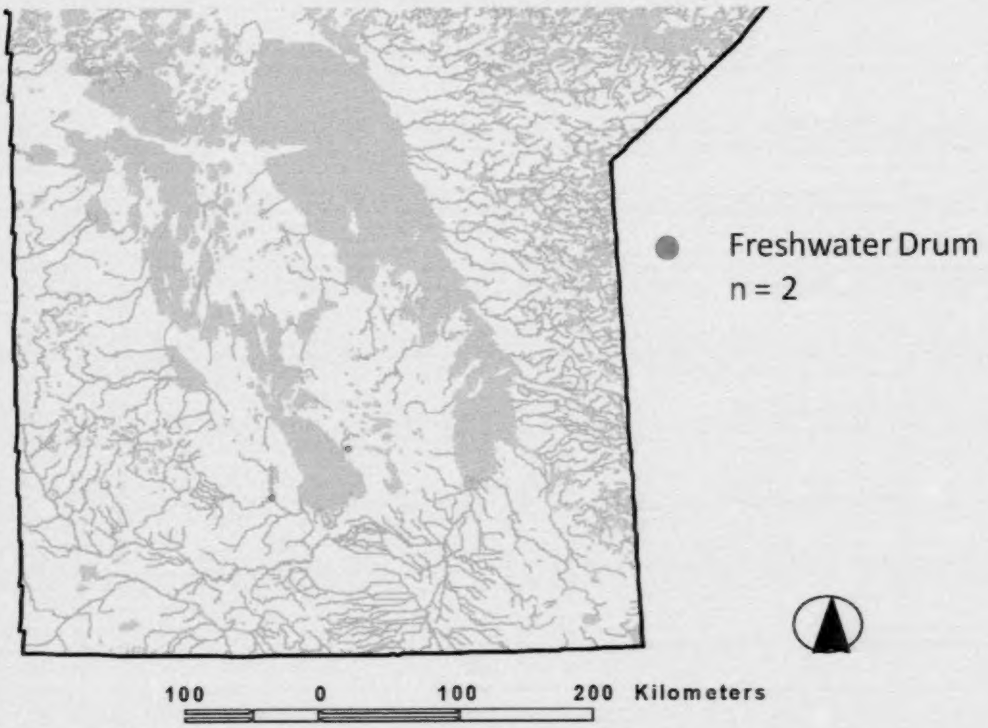
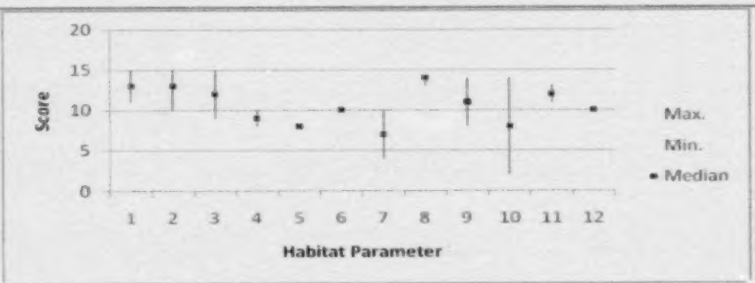


Figure 88: A summary of Walleye collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.


Freshwater Drum
n = 2
100
0
100
200
Kilometers

Common Name	Count (n)	Habitat Assessment Score			Range	Sum	Variance	Standard Deviation
		Med.	Max.	Min.				
Freshwater Drum	2	128	141	110	31	251	481	22



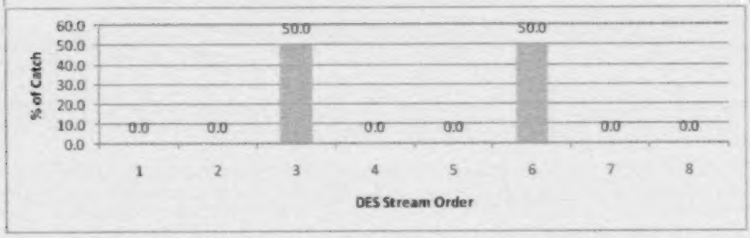
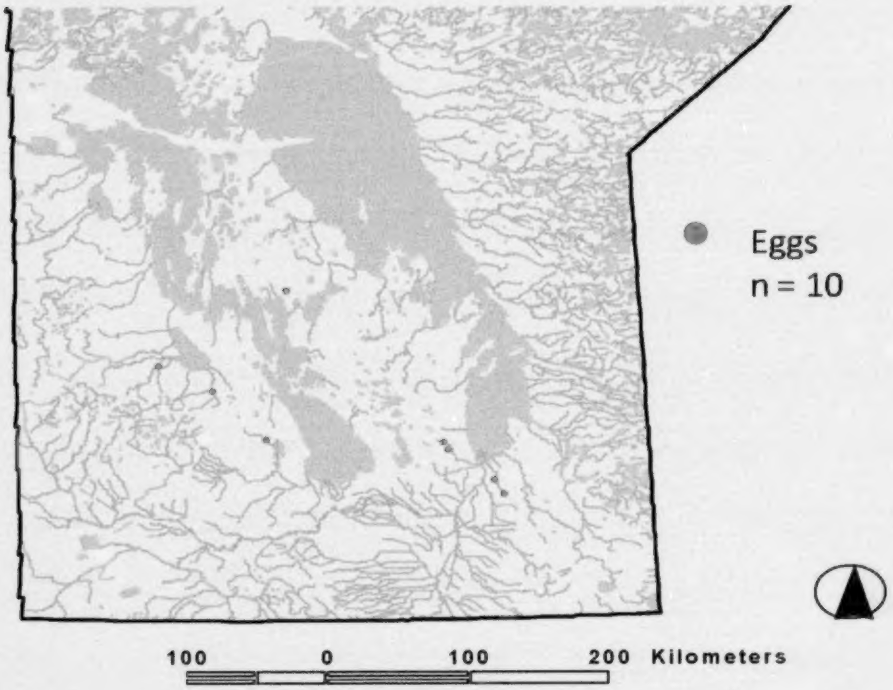


Figure 89: A summary of Freshwater Drum collections showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Max.	Min.	Range	Sum	Variance	Standard Deviation
Eggs	6	143	205	75	130	866	1983	45

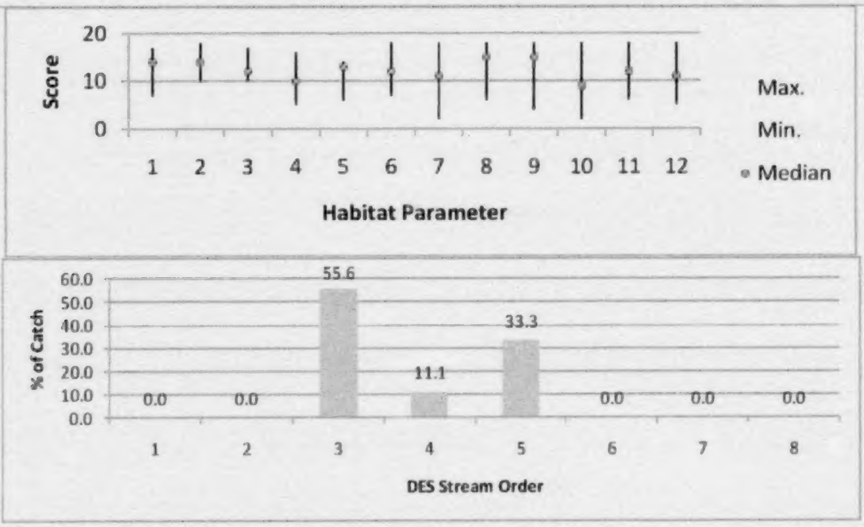
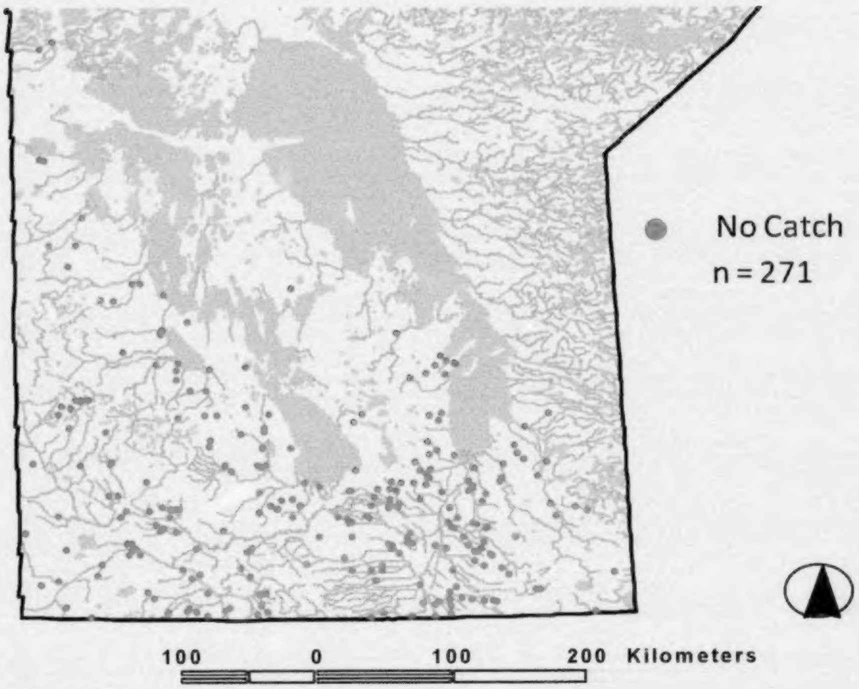
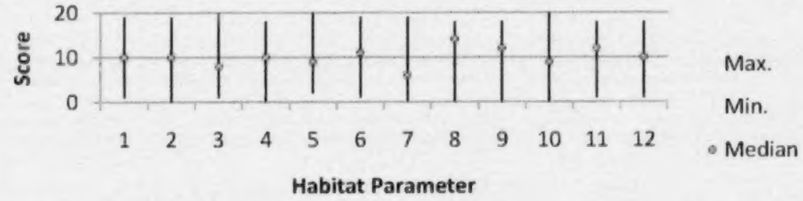


Figure 90: A summary of Egg collections (9–Catostomidae, 1–Percidae) showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.



Common Name	Count (n)	Habitat Assessment Score Med.	Habitat Assessment Score Max.	Habitat Assessment Score Min.	Range	Sum	Variance	Standard Deviation
No Catch	256	116	197	61	136	31171	999	32



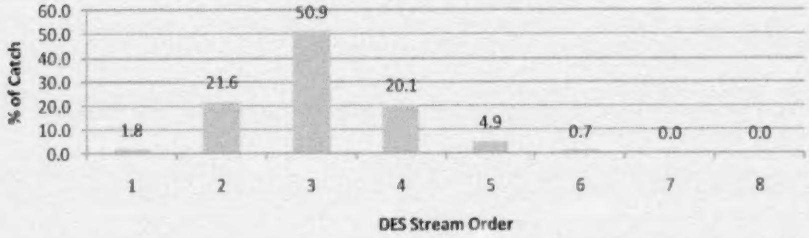


Figure 91: A summary of No Catch results showing collection sites; maximum, minimum and median individual parameter and total Habitat Assessment Scores; and the percent of catch by DES stream order.

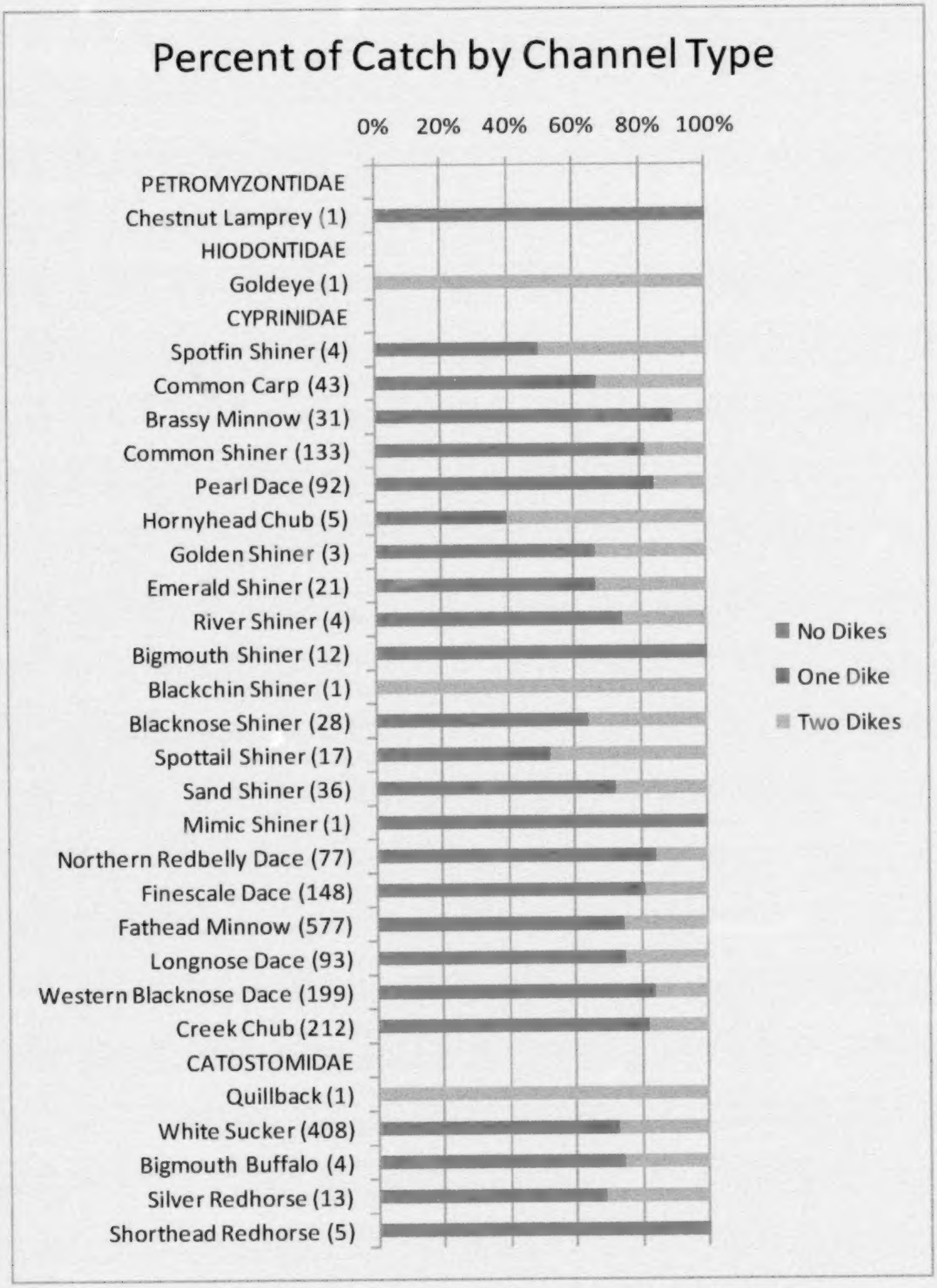


Figure 92: **Composition of the catch summarized by Family and by channel type.**

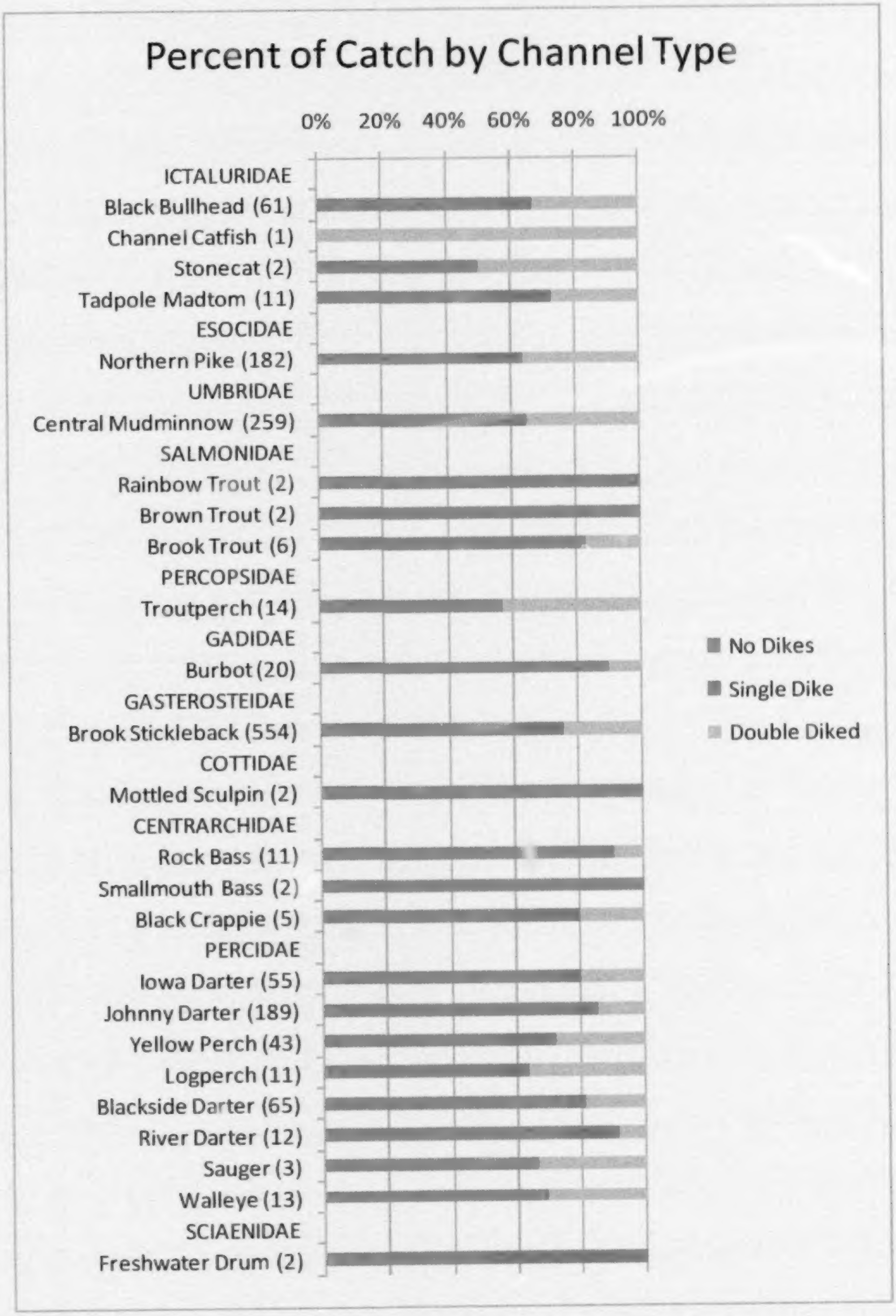


Figure 92: Composition of the catch summarized by Family and by channel type.

4.7 WATER CHEMISTRY

Basic water chemistry measurements were collected at most sites where fishing effort was applied. The author warns that while every effort was made to calibrate and maintain instruments in the field, no effort was made to confirm results from the field with results from certified laboratory analyses.

Water temperature was measured at 1,209 sites and ranged from a low of 0.9°C to a high of 29.7°C.

Dissolved oxygen (DO) was measured at 1,113 sites and ranged from a low of 0.43 mg/L (4% saturation) to a high of 13.51 mg/L (135.9% saturation). The water temperature and altitude at each site was used to calibrate the meter and determine the percent saturation for each DO measurement.

Conductivity was measured at 1,151 sites and ranged from the low of 25 µS/cm to a high of 2000 µmhos/cm.

Turbidity was measured at 1,074 sites and ranged from a low of 0 NTU to a high of 300 NTU.

pH was measured at 1,029 sites and ranged from a low of 6.5 units to a high of 9.24 pH units.

Air temperature was measured at 2,181 sites and results ranged from a low of -1.0°C to a high of 33.5°C.

The complete list of water chemistry measurements collected from the sampling sites is provided in Appendix 6.

4.8 FIELD NOTES

Additional information that field crews deemed to have some relevance to their surveys was recorded as a field note on the data sheets. Crews identified such features as obstructions to fish passage, no flow or low flow conditions, beaver and other wildlife activity, instream and riparian zone features, adjacent land use, and other conditions.

Field notes were recorded at 2,280 sites; a summary of the field notes are provided in Appendix 7.

4.9 SITE PHOTOGRAPHS AND FIELD SKETCHES

More than 7,400 site photographs have been included. The list showing site number, descriptive caption, azimuth faced, and the unique number derived for each photograph is included in Appendix 8. A searchable (by site and photo number) PDF binder of all photographs is included in Appendix 10.

Field sketches are also included in a searchable PDF binder in Appendix 11.

5.0 DATA AND CLASSIFIED HABITAT MAPPING

The field data gathered at all sampling sites were mapped and analysed using ESRI Arcview (3.3) Geographic Information System (GIS) software. First, a base map of the study area was constructed using geo-referenced map layers available from the Manitoba Lands Initiative (MLI) website (https://mli2.gov.mb.ca/index.html).

The DES map layers (https://mli2.gov.mb.ca/water_resources/des_drain_index.html) were used to display the lines representing streams and constructed drains that were to be classified based on their habitat type (A to E). As mentioned previously, most but not all of the 114 sub-watersheds in the series were available in a digital, geo-referenced file format suitable for use in a GIS. Where no geo-referenced DES map was available, the line data representing streams and drains on 1:50,000 or 1:20,000 scale National Topographic Series (NTS) maps were used to display these features. As well, the NTS map layers (https://mli2.gov.mb.ca/topo_mapping/index.html) were used to provide the polygon data necessary to display lakes, ponds and other non-linear water bodies

5.1 DATA MAPPING

Each of the sampling locations was mapped and displayed as a data point. The colour of each data point was determined by the application of fishing effort and the status of any fish captures (i.e. Indicator Species, Non-Indicator Species, No Catch and No Fishing Effort) and the results were displayed as follows:

● Indicator Species
● Non-Indicator Species
● No Catch
● No Fishing Effort

In order for the results to display properly at sites that were visited more than once, or where multiple applications of fishing effort resulted in a different category of fish capture, the effort resulting in the collection of an Indicator Species took precedence over a Non-Indicator Species collection; and a Non-Indicator Species result took precedence over a No Catch result from the same site.

The list of all 2,371 sampling sites was converted from the Excel spreadsheet format shown in Appendix 1, to a text file format (.txt) and was input to the GIS and then converted to an ESRI (.shp) file. The latitude and longitude of each site was used to plot its location. Text files were then created for each of the lists of data provided in Appendices 2–8 (habitat complexity, habitat assessment scores, fishing effort, fish captures, water chemistry, field notes, and captions for site photographs) and these were entered into the GIS where they were joined and linked with their respective data point (sampling site).

The mapped location of all data points was confirmed visually to ensure they were plotting accurately. Plotting errors were most often a result of field crews transcribing and entering the site latitude and longitude incorrectly. Where numerous drains or streams were located in close proximity, it was often necessary to compare the site photographs with Google Earth™ or Google Street View™ images to confirm the plotting accuracy of a site.

The query, charting and analytical tools provided in Arcview were used to sort data, create summary tables, produce maps, charts and other graphics, and to carry out basic statistical analyses of the data.

5.2 CLASSIFIED HABITAT MAPPING

The digital DES maps representing the streams and drains that were to be classified were downloaded as geo-referenced ESRI SHAPE (.shp) files. Each map file included the indexed drain lines representing the actual drains in the sub-watershed and the polygon enclosing the map and delineating the drainage boundary of that sub-watershed.

The mapping conventions used in the DES drain data sets are fully explained on the MLI website in a document that was prepared by the Geomatics Branch, Land Information Division in response to Water Resource Branch requirements for digital Designation of Drains maps. The document is provided when a user selects an individual DES map for download. The document describes the provincial drainage system, the protocol for drain ordering, the stream segmenting method, and the attributes assigned to each drain segment including drainage basin name, watershed number, DES map number, drain order, topographical features, Geographical Name if any, and the unique numbering code for each drain segment.

Among the topographical attributes assigned to each line (drain) segment by the Geomatics Branch are the following descriptors (feature names):

- Ditch
- Linear Depression
- River/Stream Perennial
- River/Stream Indefinite
- Stream Intermittent

The feature names "Ditch" and "Linear Depression" were assigned to linear, constructed channels and some channelized streams. This attribute correlated well with the field crews' identification of Simple Habitat. Similarly, the line segments assigned the feature name River/Stream Perennial, River/Stream Indefinite, or Stream Intermittent correlated well with the field crews' identification of Complex Habitat. This provided a first step in the classification of fish habitat and served to identify and display Simple versus Complex Habitat for those streams and drains within the DES map area of coverage.

In order to display this initial identification of Simple versus Complex Habitat in Arcview GIS, the drain lines with the feature name Linear Depression, or Ditch, were shown as green lines, while the drain lines with any of the River or Stream feature names were displayed in red. Displaying the colour-coded site data points on top of the green, Simple Habitat lines; and the red, Complex Habitat lines, provided the next step in determining the Fish Habitat Classification of the drains and streams in the DES map series. Once the classification of a surveyed reach was determined (e.g. Complex Habitat with Indicator Species) the line segment corresponding to that reach was assigned a habitat type, in this case, Type A.

A new data field (Habitat Type) was then added to the tabular DES line data in Arcview and the classified habitat type for that line segment was entered into the new field. This was completed for all sites and their corresponding line segment. The habitat type at each sampled reach was then displayed and the results were used to guide the application of the habitat type decision flowchart over all of the geo-referenced DES sub-watersheds. The habitat types were displayed as follows:

- Type A 〰
- Type B 〰
- Type C 〰
- Type D 〰
- Type E 〰

The first iteration of classified habitat maps displayed the classified DES lines (drains) on top of the NTS lines (streams and some drains). The NTS lines were visible in those areas where no DES line data existed. The NTS lines that were visible (i.e. not covered by a DES line) most often represented headwater tributaries that were not mapped as drains on the DES maps. Occasionally, the NTS layer visible beyond the DES line data represented more recent drain construction that was not shown on the older DES maps. The visible NTS line data was identified as Unclassified in the first iteration of the classified habitat maps and was displayed as a purple line. These maps were made available to some drainage practitioners by DFO in 2007.

This unclassified habitat was subsequently classified according to the Fish Habitat Classification Protocol as part of this document preparation. The second iteration of classified habitat maps is provided as a searchable PDF file in Appendix 9. The maps are presented over 155 NTS map tiles at the 1: 50k scale. The NTS map tiles were selected as the 114 sub-watershed maps in the DES series do not have uniform scales.

Each DES map varies in scale in order to best fit the map to an individual (38 cm x 90 cm) paper map sheet.

The 1:50,000 scale National Topographic System (NTS) map tiles used to plot the location of all sampling sites and to show the classification of streams and drains in the study area is shown in Figure 93.

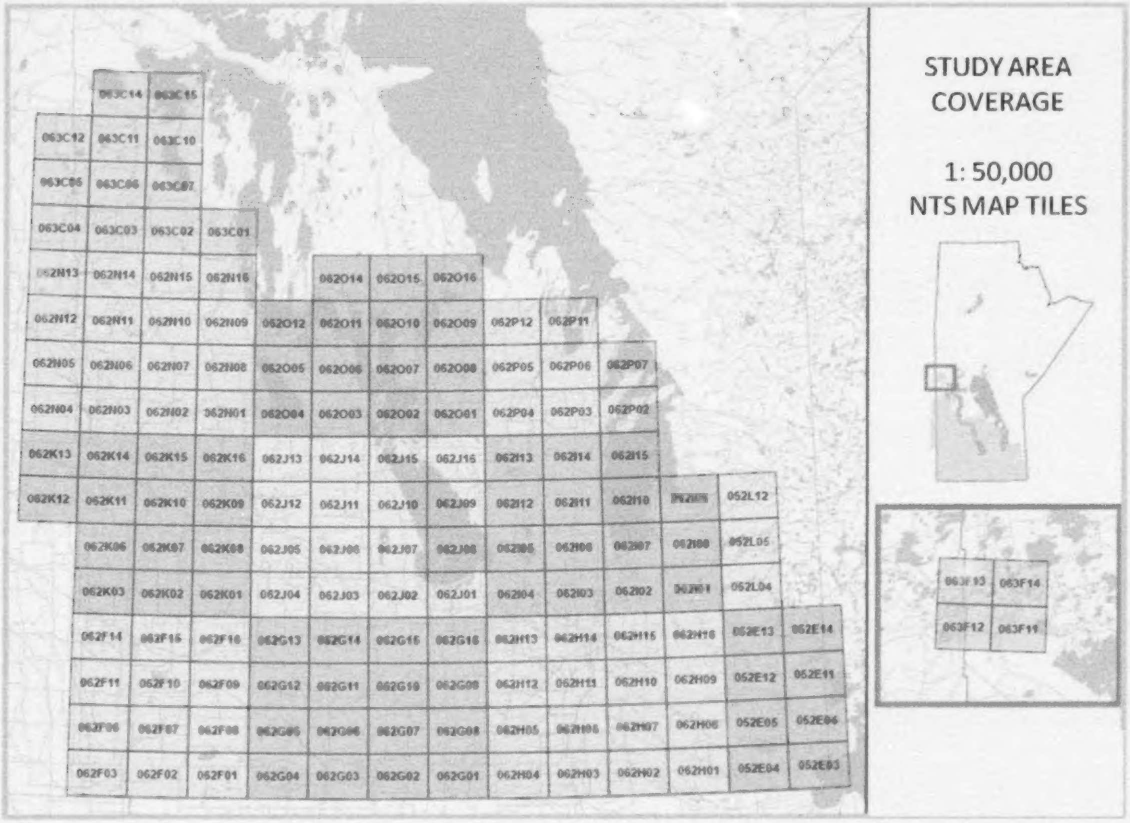

STUDY AREA COVERAGE
1: 50,000
NTS MAP TILES
063C14
063C15
063C12
063C11
063C10
063C05
063C06
063C07
063C04
063C03
063C02
063C01
062N13
062N14
062N15
062N16
062O14
062O15
062O16
062N12
062N11
062N10
062N09
062O12
062O11
062O10
062O09
062P12
062P11
062N05
062N06
062N07
062N08
062O05
062O06
062O07
062O08
062P05
062P06
062P07
062N04
062N03
062N02
062N01
062O04
062O03
062O02
062O01
062P04
062P03
062P02
062K13
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Figure 93: **Map showing the area of coverage provided by 154 National Topographic System (NTS) map tiles used to display site locations and classified streams and drains in the study area.**

Several principles and methods guided the application of the Fish Habitat Classification Protocol especially in areas that were not extensively sampled.

It was not the intent of the Manitoba Drain Maintenance Committee to create maps displaying a patchwork of habitat types reflecting the timing of routine channel maintenance work. For example, within long segments of linear, constructed drains (Simple Habitat), it is possible to find short drain segments where the channel is attempting to meander within its banks and is starting to assume some of the characteristics of Complex Habitat. If routine drain maintenance was carried out, this would then remove the more diverse channel characteristics that were developing and would bring the drain back to Simple Habitat status. The classification of such drain segments as Simple was made to reflect the broad classification of Simple Habitat applied to the rest of the linear drains in that locale.

It was recognized that an individual fish collection at a site can "under" classify habitat. For example, if the presence of an Indicator Species was missed due to poor fishing technique, or difficult fishing conditions, then Type A habitat would be incorrectly classified as Type C habitat. In cases where Indicator Species were known to utilize the system but were not collected at a sampled reach in the lower portions of that system, the higher rated, Type A classification was applied. The decision to apply a higher rating was made based on the information available from a number of sources including discussions with area Fisheries Biologists, Fisheries Branch files including the Fisheries Inventory and Habitat Classification System (FIHCS) data, Manitoba Master Angler records, and the author's field experience.

Field crews typically sampled in the lower, middle and upper reaches of each system in order to efficiently gather the data required to classify habitat. If crews collected an Indicator Species in each of these reaches the resulting classification (Type A or Type B depending on habitat complexity) was extended upstream from the mouth of the system to the uppermost sampling site where Indicator Species were collected.

The locations of breaks between Habitat Types that were dependent on fish community (e.g. between Type A and Type C) were made at obvious locations such as permanent barriers (i.e. dams, perched culverts) or drastic changes in channel morphology (e.g. below the junction of several lower-ordered tributaries) that might modify the composition of the fish community upstream of the feature.

The location of breaks between direct fish habitat (Type A, B, C, and D) and indirect fish habitat (Type E) were made at obvious breaks in habitat connectivity, drastic changes in channel capacity or morphology, the presence of terrestrial vegetation in the channel and the absence of any fish community. Where no breaks in habitat type or channel morphology were evident, the break between direct and indirect fish habitat was made half the distance between features (e.g. half the distance between the uppermost fish collection and the stream origin).

The DES map series describes first-order streams as having less than 1 sq. mile of drainage area. As soon as the drainage area exceeds 1 sq. mile, the DES order changes from first to second order. All DES first-order drains and streams were initially given the Type E classification. Fishing effort was applied at 12 first-order sampling reaches. Fish were collected at eight of these sites. Indicator Species (White Sucker or Burbot) were collected at three sites. Six fish species were collected at one site (X-05-229). These sites were appropriately classified as direct fish habitat (Type A, B, C or D). No fishing effort was applied at the other 25 first-order sites surveyed.

More than 80,500 km of streams and drains have been classified and mapped. The maps are meant to be iterative and will be improved with the addition of new sampling information over time.

6.0 ACKNOWLEDGEMENTS

The author acknowledges the work and support of all members of the Manitoba/Canada Drain Maintenance Committee under the Co-Chairmanship of Beth Hiltz and Joel Hunt. Bruce Webb provided significant support in moving this project forward in its early stages. Todd Schwartz has provided strong guidance, support and good advice through all stages of the project. Jeff Long and Margaret Keast provided advice and reviewed an early draft of the report. Doug Watkinson generously provided laboratory space and his fish identification expertise. Ron Hempel provided invaluable GIS mapping support and technical advice. Maureen Forster and Mark Loudon vastly improved the format and content with their editing and technical review of the draft report. Ernie Watson provided early field assistance and advice on Manitoba's mollusc community.

The author is very pleased to acknowledge the dedication, integrity and hard work of the students involved in the collection of field data. Jaime Clarke, Ashley Wruth, Julie Tingley, Henry Wilson, Ashley Presenger, Vaughn Kachanoski, Jeff Eastman and James Aiken should all take pride in the manner in which they represented DFO over the years of the inventory.

Finally, I must acknowledge the time I was able to spend with Dr. Ken Stewart over the winters of 2004 – 2006, when he was contracted to oversee the identification of fish collections. It was an informative, entertaining and exceedingly interesting learning opportunity. He will be sadly missed.

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Appendix 1: **Table listing the site number, date sampled, site name, latitude and longitude (in decimal degrees - DD), DES stream order, DES map number and the corresponding NTS map number for all sites surveyed between 2002 and 2006.**

Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-001	16-Apr-02	Sturgeon Creek	49.87693	-97.27348	4	26	062H14
D-02-002	17-Apr-02	La Salle River	49.69432	-97.26246	5	22	062H11
D-02-003	19-Apr-02	Jackfish Creek	51.13015	-99.93745	4	47	062O04
D-02-004	22-Apr-02	Mink Creek	51.39807	-100.45823	4	49	062N08
D-02-005	2-May-02	Turtle River	50.90373	-99.50532	5	45	062J13
D-02-006	6-May-02	Unnamed tributary to Assiniboine River	49.93063	-98.47507	2	100	062G16
D-02-007	6-May-02	Rat Creek	49.84235	-98.66552	3	35	062G15
D-02-008	7-May-02	Rat Creek	50.00472	-98.45433	5	35	062J01
D-02-009	7-May-02	Norquay Channel	49.57555	-97.79270	5	18	062H12
D-02-010	9-May-02	Manning Canal	49.59443	-96.82155	4	7	062H10
D-02-011	9-May-02	Youville Drain	49.66448	-96.85435	3	8	062H10
D-02-012	9-May-02	Joubert Creek Extension	49.29627	-96.50977	3	4	062H07
D-02-013	10-May-02	Manning Canal	49.51978	-96.60098	3	7	062H10
D-02-014	11-May-02	Main Drain	49.13332	-97.14232	4	2	062H03
D-02-015	11-May-02	Stewart Drain	49.14073	-96.98805	3	2	062H02
D-02-016	11-May-02	Unnamed tributary to Roseau River	49.20947	-97.01803	3	2	062H03
D-02-017	11-May-02	Confluence of unnamed tributary and Roseau River	49.18372	-96.82582	2	2	062H02
D-02-018	12-May-02	Selkirk Line Drain	50.15055	-96.70206	3	13	062I02
D-02-019	12-May-02	Devils Creek	50.15257	-96.70889	4	13	062I02
D-02-020	12-May-02	Pelletier Drain	50.23185	-96.72575	3	13	062I02
D-02-021	12-May-02	Township Line Drain	50.23953	-96.72597	3	13	062I02
D-02-022	12-May-02	Selkirk Line Drain	50.15055	-96.70755	3	13	062I02
D-02-023	12-May-02	Devils Creek	50.02843	-96.61273	3	13	062I02
D-02-024	12-May-02	Devils Creek	49.96167	-96.55542	3	13	062H15
D-02-025	13-May-02	Netley Creek	50.38883	-97.13925	3	30	062I06

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-026	13-May-02	Netley Creek	50.40343	-97.15950	3	30	062I06
D-02-027	13-May-02	Netley Creek	50.47513	-97.22985	3	30	062I06
D-02-028	13-May-02	Netley Creek	50.46792	-97.20620	3	30	062I06
D-02-029	14-May-02	East Colony Creek	50.03435	-97.33232	2	26	062I03
D-02-030	14-May-02	Grassmere Creek Drain	50.01677	-97.16110	5	27	062I03
D-02-031	15-May-02	Riding Mountain Drain	50.52080	-99.30978	5	43	062J11
D-02-032	15-May-02	Big Grass River	50.46860	-98.91567	5	43	062J07
D-02-033	15-May-02	Big Grass River	50.50593	-98.97175	5	43	062J10
D-02-034	16-May-02	Norgate Drain	50.68317	-99.41520	4	44	062J11
D-02-035	16-May-02	Norgate Drain	50.69803	-99.39168	4	44	062J11
D-02-036	16-May-02	Turtle River	50.79348	-99.40927	5	44	062J14
D-02-037	16-May-02	McKinnon Creek	50.84567	-99.47237	4	44	062J14
D-02-038	16-May-02	Harcus Drain	50.72732	-98.83317	4	110	062J10
D-02-039	16-May-02	Garrioch Creek	50.80133	-98.93403	4	110	062J15
D-02-040	16-May-02	Wilson Creek	50.75633	-99.53147	3	44	062J13
D-02-041	16-May-02	Turtle River	50.90373	-99.50532	5	45	062J13
D-02-042	17-May-02	Turtle River	50.90373	-99.50532	5	45	062J13
D-02-043	21-May-02	Crawford Creek	51.07362	-99.81992	3	46	062O04
D-02-044	21-May-02	Jackfish Creek	51.09116	-99.95771	4	47	062O04
D-02-045	22-May-02	McKinnon Creek	50.78313	-99.55470	3	44	062J13
D-02-046	22-May-02	Turtle River	50.90373	-99.50532	5	45	062J13
D-02-047	23-May-02	South Bay Drain	51.66407	-99.99042	3	102	062O12
D-02-048	23-May-02	Red Deer Point Drain	51.70668	-99.96682	3	102	062O12
D-02-049	23-May-02	Bicton Heath Drain	51.59275	-99.97164	3	102	062O12
D-02-050	23-May-02	Rice Lake Drain	51.56550	-99.88557	3	102	062O12

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-051	24-May-02	Unnamed tributary to Ochre River	50.99687	-99.82850	2	46	062J13
D-02-052	24-May-02	Ochre River	50.97818	-99.77788	5	46	062J13
D-02-053	24-May-02	Kerosene Creek	50.97812	-99.74438	2	45	062J13
D-02-054	24-May-02	Henderson Creek	50.90363	-99.66882	4	45	062J13
D-02-055	24-May-02	Kergwenan Drain	50.94843	-99.55535	3	45	062J13
D-02-056	24-May-02	Henderson Creek	50.90430	-99.67117	4	45	062J13
D-02-057	24-May-02	Henderson Creek	50.92640	-99.55498	4	45	062J13
D-02-058	24-May-02	Kergwenan Drain	50.94848	-99.55466	3	45	062J13
D-02-059	27-May-02	Kergwenan Drain	50.94863	-99.53187	3	45	062J13
D-02-060	27-May-02	North Snake Creek	50.44565	-99.50560	3	43	062J05
D-02-061	28-May-02	Norquay Channel	49.56402	-97.82010	5	18	062H12
D-02-062	28-May-02	Norquay Channel	49.53202	-97.86412	5	18	062H12
D-02-063	28-May-02	Assiniboine River	49.93663	-98.27313	8	24	062G16
D-02-064	29-May-02	Jordan Creek Drain	50.38800	-98.96215	4	42	062J07
D-02-065	29-May-02	Big Grass River	50.38790	-98.86935	5	42	062J07
D-02-066	29-May-02	Big Grass River	50.50593	-98.97183	5	43	062J10
D-02-067	29-May-02	Big Grass River	50.55035	-99.14667	5	43	062J11
D-02-068	29-May-02	Big Grass River Angle Ditch	50.58859	-99.19320	4	43	062J11
D-02-069	29-May-02	North Snake Creek	50.47765	-99.33518	4	43	062J06
D-02-070	30-May-02	Big Grass River	50.50593	-98.97183	5	43	062J10
D-02-071	30-May-02	North Snake Creek	50.44742	-99.40038	3	43	062J06
D-02-072	3-Jun-02	Netley Creek	50.46070	-97.37798	2	30	062I06
D-02-073	3-Jun-02	Netley Creek	50.38857	-97.13877	3	30	062I06
D-02-074	3-Jun-02	Netley Creek	50.30882	-96.99765	5	30	062I07
D-02-075	4-Jun-02	Netley Creek	50.37372	-97.11280	3	30	062I06

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-076	5-Jun-02	Netley Creek	50.37372	-97.11280	3	30	062I06
D-02-077	5-Jun-02	Netley Creek	50.40343	-97.15950	3	30	062I06
D-02-078	5-Jun-02	Netley Creek	50.45888	-97.18337	3	30	062I06
D-02-079	5-Jun-02	Netley Creek	50.44797	-97.16535	3	30	062I06
D-02-080	5-Jun-02	Netley Creek	50.43299	-97.15985	3	30	062I06
D-02-081	6-Jun-02	Willow Creek	50.57567	-97.02235	4	31E	062I11
D-02-082	6-Jun-02	Willow Creek	50.58942	-97.06823	4	31E	062I11
D-02-083	6-Jun-02	Bass Drain	50.57785	-97.11425	4	31E	062I11
D-02-084	12-Jun-02	Burnt Lake Drain	50.72057	-98.07592	3	31W	062J09
D-02-085	12-Jun-02	Swan Creek	50.77802	-98.15787	3	31W	062J16
D-02-086	12-Jun-02	Swan Lake Dam	50.80042	-98.16952	3	31W	062J16
D-02-087	12-Jun-02	Burnt Lake Drain	50.72977	-97.90198	3	31W	062I12
D-02-088	13-Jun-02	Wagon Creek	50.54803	-98.03767	2	31W	062J09
D-02-089	13-Jun-02	Hatchery Drain	50.62405	-98.09477	3	31W	062J09
D-02-090	13-Jun-02	Mud Lake Drain	50.66872	-98.04380	3	31W	062J09
D-02-091	13-Jun-02	Mud Lake Drain	50.69820	-98.11128	3	31W	062J09
D-02-092	13-Jun-02	Burnt Lake Drain	50.76128	-98.04123	3	31W	062J16
D-02-093	14-Jun-02	Crawford Creek	51.08128	-99.78195	3	46	062O04
D-02-094	18-Jun-02	Long Lake Drain	50.07443	-98.01000	4	25	062J01
D-02-095	18-Jun-02	Long Lake Drain	50.01485	-97.76068	4	25	062I04
D-02-096	19-Jun-02	Bachman Drain	50.12057	-96.45190	3	10	062I01
D-02-097	19-Jun-02	Oneschuk Drain	50.20783	-96.46285	3	10	062I01
D-02-098	19-Jun-02	T - Drain	50.31130	-96.49982	3	10	062I08
D-02-099	19-Jun-02	T - Drain	50.31140	-96.48218	3	10	062I08
D-02-100	20-Jun-02	U - Drain	50.28262	-96.38058	3	10	062I08

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-101	20-Jun-02	Matychak Drain	50.17923	-96.38352	3	10	062I01
D-02-102	20-Jun-02	Selkirk Line East	50.14992	-96.40622	3	10	062I01
D-02-103	20-Jun-02	Bachman East Drain	50.12028	-96.36053	3	10	062I01
D-02-104	20-Jun-02	Bears Creek	50.04680	-96.37635	3	10	062I01
D-02-105	21-Jun-02	Jordan Creek Drain	50.38797	-99.32143	3	42	062J06
D-02-106	21-Jun-02	Award II Drain	50.37322	-99.40058	3	39	062J06
D-02-107	21-Jun-02	Unnamed tributary to Award II Drain	50.40282	-99.49228	2	39	062J06
D-02-108	21-Jun-02	Conjuring Creek	50.79505	-101.29940	3	92	062K14
D-02-109	26-Jun-02	Sibbald Creek	49.92352	-100.39337	3	82	062F16
D-02-110	26-Jun-02	Sibbald Creek	49.93110	-100.43728	3	82	062F16
D-02-111	26-Jun-02	Sibbald Creek	49.94523	-100.43300	3	82	062F16
D-02-112	3-Jul-02	Boundary Drain	51.24383	-98.37355	2	34	062O01
D-02-113	3-Jul-02	Boundary Drain	51.24385	-98.36167	2	34	062O01
D-02-114	3-Jul-02	Unnamed tributary to Birch Creek Lateral	51.34210	-98.46240	2	111	062O08
D-02-115	3-Jul-02	Birch Creek	51.42783	-98.54363	3	111	062O07
D-02-116	3-Jul-02	Birch Creek	51.47097	-98.52170	3	111	062O07
D-02-117	3-Jul-02	Birch Creek	51.46378	-98.52258	3	111	062O07
D-02-118	3-Jul-02	Birch Creek	51.43532	-98.53252	3	111	062O07
D-02-119	4-Jul-02	Pioneer Drain	51.09663	-98.42030	3	34	062O01
D-02-120	4-Jul-02	Confluence of Marne Drain and Pioneer Drain	51.09672	-98.43327	3	34	062O01
D-02-121	4-Jul-02	Camper Drain	51.06712	-98.42022	3	34	062O01
D-02-122	4-Jul-02	Little Dog Lake Drain	51.02313	-98.39078	3	34	062O01
D-02-123	4-Jul-02	Camper Drain	51.06705	-98.27943	2	34	062O01
D-02-124	4-Jul-02	Pioneer Drain	51.10175	-98.28295	2	34	062O01
D-02-125	9-Jul-02	Broadvalley Drain	51.08263	-97.59397	4	33	062P04

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-126	9-Jul-02	Dumoulin Drain	51.09735	-97.56218	3	33	062P04
D-02-127	9-Jul-02	East Letexif Drain	51.13812	-97.55582	2	33	062P04
D-02-128	9-Jul-02	Meridian Drain	51.17092	-97.49727	3	33	062P03
D-02-129	9-Jul-02	Fisher River	51.15618	-97.54577	4	33	062P04
D-02-130	9-Jul-02	Fisher River	51.10473	-97.62615	3	33	062P04
D-02-131	9-Jul-02	Plishka Drain Lateral	51.06540	-97.67282	4	33	062P04
D-02-132	10-Jul-02	Kilkenny Drain	51.08260	-97.79030	3	33	062P04
D-02-133	10-Jul-02	Fisher River	51.12678	-97.77282	4	33	062P04
D-02-134	10-Jul-02	Leroy Drain	51.17647	-97.76693	2	33	062P04
D-02-135	10-Jul-02	Broadvalley Drain	51.02362	-97.58398	4	33	062P04
D-02-136	10-Jul-02	Unnamed tributary to Icelandic Drain	50.86673	-97.60055	3	32	062I13
D-02-137	12-Jul-02	Fishing River	51.46843	-100.36797	4	49	062N08
D-02-138	12-Jul-02	Stoney Creek	51.47278	-100.36972	2	49	062N08
D-02-139	12-Jul-02	Fishing River	51.42655	-100.55722	3	49	062N07
D-02-140	12-Jul-02	Mink Creek	51.41390	-100.35332	4	49	062N08
D-02-141	12-Jul-02	Zoria Drain	51.39054	-100.35762	1	95	062N08
D-02-142	17-Jul-02	Shanty Creek	51.52330	-100.41665	4	102	062N09
D-02-143	17-Jul-02	North Duck River	52.03170	-100.64973	4	105	063C02
D-02-144	17-Jul-02	Old Government Drain	52.07495	-101.03702	3	52	063C03
D-02-145	17-Jul-02	East Favel River	52.11435	-101.05157	4	52	063C03
D-02-146	17-Jul-02	West Favel River	52.16528	-101.04097	4	52	063C03
D-02-147	17-Jul-02	Swinowski Drain	52.17317	-100.96590	2	53	063C02
D-02-148	17-Jul-02	Swinowski Drain	52.17210	-100.96577	4	53	063C02
D-02-149	17-Jul-02	Sinclair River	52.17875	-100.96560	5	53	063C02
D-02-150	18-Jul-02	Avonlea Drain	52.17263	-101.10855	3	61	063C03

Appendix 1: Table listing the site number, date sampled, site name, latitude and longitude (in decimal degrees - DD), DES stream order, DES map number and the corresponding NTS map number for all sites surveyed between 2002 and 2006.

Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-151	18-Jul-02	Unnamed tributary to Swan River	52.18808	-101.10855	2	61	063C03
D-02-152	18-Jul-02	Unnamed tributary to Swan River	52.21363	-101.03717	2	61	063C03
D-02-153	18-Jul-02	Farden Drain	52.12183	-100.95838	3	53	063C02
D-02-154	18-Jul-02	Townline Drain	52.23073	-100.94163	3	53	063C02
D-02-155	18-Jul-02	Lalecheur Drain	52.27095	-100.94170	4	53	063C07
D-02-156	18-Jul-02	Unnamed tributary to Community Pasture Drain	52.28895	-100.85368	2	53	063C07
D-02-157	18-Jul-02	Renwer Drain	52.10233	-100.79868	3	53	063C02
D-02-158	18-Jul-02	Jarosz Drain	52.09987	-100.83532	3	53	063C02
D-02-159	18-Jul-02	Jeski Drain	52.08535	-101.11763	3	52	063C03
D-02-160	23-Jul-02	Ochre River	51.05138	-99.78653	5	46	062O04
D-02-161	23-Jul-02	Scott Creek	50.84495	-99.55512	4	44	062J13
D-02-162	23-Jul-02	Tityk Drain	50.74238	-99.35180	2	44	062J11
D-02-163	24-Jul-02	Eden Creek	50.37138	-99.49287	3	39	062J06
D-02-164	24-Jul-02	Eden Creek	50.37325	-99.46195	3	39	062J06
D-02-165	24-Jul-02	Eden Creek	50.34567	-99.44668	3	39	062J06
D-02-166	24-Jul-02	Law Creek	50.32883	-99.48478	3	39	062J06
D-02-167	24-Jul-02	Law Creek	50.34940	-99.56145	3	39	062J05
D-02-168	24-Jul-02	Unnamed tributary to Spring Creek	50.33100	-99.63035	1	39	062J05
D-02-169	24-Jul-02	Unnamed tributary to Spring Creek	50.30098	-99.62087	2	39	062J05
D-02-170	24-Jul-02	Stony Creek	50.26445	-99.63103	4	39	062J05
D-02-171	25-Jul-02	Bear Cat Creek	50.18122	-99.27220	2	39	062J03
D-02-172	25-Jul-02	Unnamed tributary to Bear Cat Creek	50.16723	-99.21898	2	39	062J03
D-02-173	25-Jul-02	Helston Drain	50.12387	-99.19238	3	39	062J03
D-02-174	25-Jul-02	Unnamed tributary to Bear Creek	50.07642	-99.15807	2	39	062J03
D-02-175	25-Jul-02	Bear Creek	50.11167	-99.18533	3	39	062J03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-176	25-Jul-02	Gillespie Drain	50.07437	-99.11040	3	38	062J03
D-02-177	25-Jul-02	Helston Drain	50.13720	-99.11050	3	39	062J03
D-02-178	25-Jul-02	Bear Creek	50.13733	-99.09235	4	39	062J03
D-02-179	30-Jul-02	Fishtown Creek	52.46328	-101.08333	3	90	063C06
D-02-180	30-Jul-02	Fishtown Creek	52.44917	-100.99160	3	90	063C07
D-02-181	31-Jul-02	Birch River	52.39737	-101.12333	3	90	063C06
D-02-182	31-Jul-02	Indian Birch River	52.43443	-100.95175	4	90	063C07
D-02-183	31-Jul-02	Bell River	52.59112	-101.09123	4	97	063C11
D-02-184	31-Jul-02	Bell River Drain	52.62383	-100.99202	4	97	063C10
D-02-185	1-Aug-02	Martin Creek	52.40798	-101.03877	2	90	063C06
D-02-186	1-Aug-02	Robinson Creek	52.34798	-101.03883	3	90	063C06
D-02-187	1-Aug-02	Unnamed tributary to Woody River	52.40201	-100.89699	2	90	063C07
D-02-188	1-Aug-02	Lalecheur Drain	52.23075	-100.89230	3	53	063C02
D-02-189	1-Aug-02	Unnamed tributary to Sinclair River	52.20128	-100.91791	1	53	063C02
D-02-190	1-Aug-02	Sinclair River	52.13920	-100.77498	3	53	063C02
D-02-191	15-Aug-02	Vermillion River	50.97573	-100.25538	4	47	062K16
D-02-192	16-Aug-02	Renicker Creek	51.03708	-100.50090	2	48	062N02
D-02-193	20-Aug-02	Second Creek	49.88272	-97.47458	3	26	062H14
D-02-194	20-Aug-02	Truro Creek	49.87796	-97.22497	2	City	062H14
D-02-195	21-Aug-02	Medika Drain	49.66493	-95.85633	2	84	052E06
D-02-196	21-Aug-02	Birch River	49.64933	-95.72598	3	84	052E06
D-02-197	22-Aug-02	Simard Creek	49.44397	-96.38900	3	8	062H08
D-02-198	22-Aug-02	Marchand West Drain	49.39978	-96.41972	3	8	062H08
D-02-199	27-Aug-02	Boyne River	49.54082	-98.41438	4	18	062G09
D-02-200	27-Aug-02	Unnamed tributary to Boyne River	49.54107	-98.41475	2	18	062G09

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-02-201	8-Oct-02	Unnamed tributary to Pipestone Creek	49.71499	-100.96235	4	62	062F10
B-03-001	21-May-03	Unnamed tributary to Winnipeg River	50.14912	-96.06443	2	96	062I01
B-03-002	23-May-03	Unnamed tributary to Little Souris River	49.76832	-99.96170	3	98	062G13
B-03-003	23-May-03	Little Souris River	49.73824	-99.96701	4	98	062G12
B-03-004	23-May-03	Spring Creek	49.72432	-99.80415	2	98	062G12
B-03-005	23-May-03	Little Souris River	49.76210	-99.74825	4	98	062G13
B-03-006	23-May-03	Five Mile Creek	49.66508	-99.71495	3	98	062G12
B-03-007	26-May-03	Unnamed tributary to Pipestone Creek	49.70958	-100.94779	4	62	062F10
B-03-008	26-May-03	Unnamed tributary to Pipestone Creek	49.72197	-101.07647	2	62	062F11
B-03-009	26-May-03	Unnamed tributary to Pipestone Creek	49.74793	-101.07660	4	62	062F11
B-03-010	26-May-03	Unnamed tributary to Pipestone Creek	49.77982	-101.14478	4	62	062F14
B-03-011	26-May-03	Belleview Drain	49.60670	-100.84925	3	62	062F10
B-03-012	26-May-03	Unnamed tributary to Pipestone Creek	49.56965	-100.91753	2	62	062F10
B-03-013	27-May-03	Gopher Creek	49.78230	-100.96335	4	75	062F15
B-03-014	27-May-03	Gopher Creek	49.78353	-101.07940	4	75	062F14
B-03-015	27-May-03	Unnamed tributary to Gopher Creek	49.82793	-101.14505	3	75	062F14
B-03-016	27-May-03	Gopher Creek	49.85510	-101.14462	3	75	062F14
B-03-017	28-May-03	Bosshill Creek	49.84333	-100.96983	4	75	062F15
B-03-018	28-May-03	Bosshill Creek	49.87185	-101.12612	4	75	062F14
B-03-019	28-May-03	Bosshill Creek	49.85263	-101.00868	4	75	062F14
B-03-020	29-May-03	Scallion Creek	49.86872	-100.93107	4	75	062F15
B-03-021	29-May-03	Scallion Creek	49.88682	-100.92352	4	75	062F15
B-03-022	29-May-03	Little Scallion Creek	49.89007	-100.94283	3	75	062F15
B-03-023	29-May-03	Unnamed tributary to Assiniboine River	49.95430	-100.88923	3	75	062F15
B-03-024	29-May-03	Unnamed tributary to Assiniboine River	49.98372	-100.89263	3	75	062F15

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-03-025	29-May-03	Unnamed tributary to Assiniboine River	49.84485	-100.78142	3	73	062F15
B-03-026	29-May-03	Baileys Creek	49.82903	-100.63473	3	73	062F15
B-03-027	30-May-03	Baileys Creek	49.88674	-100.69514	3	73	062F15
B-03-028	30-May-03	Baileys Creek	49.86023	-100.66750	3	73	062F15
B-03-029	30-May-03	Brierwood Creek	49.98723	-100.62242	3	73	062F15
B-03-030	30-May-03	Brierwood Creek	49.99765	-100.64545	3	73	062F15
B-03-031	30-May-03	Unnamed tributary to Brierwood Creek	50.01937	-100.49992	3	73	062K01
B-03-032	2-Jun-03	Unnamed tributary to Oak River	49.98980	-100.47488	3	73	062F16
B-03-033	2-Jun-03	Oak River	49.98020	-100.46152	5	72	062F16
B-03-034	2-Jun-03	Brierwood Creek	49.92980	-100.48041	4	73	062F16
B-03-035	2-Jun-03	Brierwood Creek	49.94137	-100.50777	4	73	062F15
B-03-036	2-Jun-03	Unnamed tributary to Oak River	50.13612	-100.53102	3	73	062K02
B-03-037	2-Jun-03	Brierwood Creek	50.13753	-100.68822	2	73	062K02
B-03-038	2-Jun-03	Unnamed tributary to Assiniboine River	50.09148	-100.82953	4	73	062K02
B-03-039	3-Jun-03	West Spring Creek	50.27000	-99.94780	2	81	062J05
B-03-040	3-Jun-03	West Spring Creek	50.24475	-99.91997	2	81	062J04
B-03-041	3-Jun-03	Sandersons Creek	50.30702	-99.81542	3	81	062J05
B-03-042	3-Jun-03	Sandersons Creek	50.31278	-99.79482	3	81	062J05
B-03-043	3-Jun-03	Otter Creek	50.49120	-99.79595	3	81	062J05
B-03-044	3-Jun-03	Rolling River	50.54137	-99.76968	4	81	062J12
B-03-045	4-Jun-03	Unnamed tributary to Assiniboine River	49.85547	-100.12103	3	98	062F16
B-03-046	4-Jun-03	Unnamed tributary to Willow Creek	49.92022	-99.91183	3	99	062G13
B-03-047	4-Jun-03	Unnamed tributary to Willow Creek	49.94555	-99.90587	3	99	062G13
B-03-048	4-Jun-03	Unnamed tributary to Willow Creek	49.91632	-99.86187	4	99	062G13
B-03-049	4-Jun-03	West Branch Willow Creek	49.91612	-99.81395	3	99	062G13

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B-03-050	4-Jun-03	East Branch Willow Creek	49.91610	-99.77523	3	99	062G13
B-03-051	4-Jun-03	South Boggy Creek	49.90118	-99.68998	3	99	062G13
B-03-052	4-Jun-03	Willow Creek	49.86105	-99.82573	5	99	062G13
B-03-053	5-Jun-03	Broughtons Creek	50.09167	-100.22952	4	82	062K01
B-03-054	5-Jun-03	Unnamed tributary to Little Saskatchewan River	50.13717	-100.15567	3	82	062K01
B-03-055	5-Jun-03	Unnamed tributary to Little Saskatchewan River	50.13700	-100.12385	2	82	062K01
B-03-056	5-Jun-03	Unnamed tributary to Little Saskatchewan River	50.12267	-100.10282	2	82	062K01
B-03-057	5-Jun-03	Unnamed tributary to Broughtons Creek	50.13767	-100.27625	3	82	062K01
B-03-058	5-Jun-03	Broughtons Creek	50.10805	-100.28308	3	82	062K01
B-03-059	5-Jun-03	Sibbald Creek	49.92347	-100.39328	3	82	062F16
B-03-060	5-Jun-03	Sibbald Creek	49.91603	-100.32795	3	82	062F16
B-03-061	9-Jun-03	Arrow River	50.16688	-100.80675	4	74	062K02
B-03-062	9-Jun-03	Golden Creek	50.13897	-100.92018	4	74	062K02
B-03-063	9-Jun-03	Arrow Marsh Drain	50.13738	-101.01370	3	74	062K03
B-03-064	10-Jun-03	Minnewasta Creek	50.22728	-101.09483	4	74	062K03
B-03-065	10-Jun-03	Minnewasta Creek	50.35840	-100.92633	4	74	062K07
B-03-066	10-Jun-03	Arrow Creek	50.48153	-100.80545	4	74	062K07
B-03-067	10-Jun-03	Arrow River	50.27000	-100.79797	4	74	062K07
B-03-068	11-Jun-03	Unnamed tributary to Birdtail Creek	50.49123	-100.93810	2	77	062K07
B-03-069	11-Jun-03	Ross Creek	50.75050	-100.90390	3	76	062K15
B-03-070	11-Jun-03	Konyk Creek	50.81055	-100.85747	3	76	062K15
B-03-071	11-Jun-03	Tilson Creek	50.81562	-100.82885	3	76	062K15
B-03-072	11-Jun-03	Giles Creek	50.51045	-100.96915	2	77	062K10
B-03-073	11-Jun-03	Unnamed tributary to Birdtail Creek	50.43212	-101.07488	3	77	062K06
B-03-074	11-Jun-03	Unnamed tributary to Birdtail Creek	50.36820	-101.08467	2	77	062K06

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B-03-075	12-Jun-03	Snake Creek	50.43050	-101.19068	5	78	062K06
B-03-076	12-Jun-03	Snake Creek	50.38210	-101.23300	5	78	062K06
B-03-077	12-Jun-03	Beaver Creek	50.36163	-101.37347	5	78	062K06
B-03-078	12-Jun-03	Hotonka Creek	50.26860	-101.29165	3	78	062K06
B-03-079	12-Jun-03	Scissor Creek	50.27890	-101.29193	4	78	062K06
B-03-080	12-Jun-03	Brennand Creek	50.21277	-101.28711	3	78	062K03
B-03-081	12-Jun-03	Wythes Creek	50.11583	-101.06575	3	78	062K03
B-03-082	12-Jun-03	Niso Creek	50.10175	-101.03867	4	78	062K03
B-03-083	16-Jun-03	Shannon Creek	49.28610	-97.86943	4	16	062H05
B-03-084	16-Jun-03	Shannon Creek	49.30098	-97.83903	4	16	062H05
B-03-085	17-Jun-03	Shannon Creek	49.34587	-97.69873	4	16	062H05
B-03-086	17-Jun-03	Shannon Creek	49.32058	-97.76603	4	16	062H05
B-03-087	17-Jun-03	Buffalo Creek	49.06048	-97.68412	4	15	062H04
B-03-088	18-Jun-03	Riviere Aux Marais	49.06245	-97.32473	3	15	062H03
B-03-089	18-Jun-03	Riviere Aux Marais	49.11837	-97.30248	4	15	062H03
B-03-090	18-Jun-03	Thiessen Drain	49.19080	-97.43713	2	15	062H03
B-03-091	18-Jun-03	Rempel Drain	49.16230	-97.46007	3	15	062H03
B-03-092	18-Jun-03	Knopf Drain	49.22100	-97.41400	3	15	062H03
B-03-093	18-Jun-03	Deadhorse Creek	49.25097	-97.64008	4	15	062H05
B-03-094	18-Jun-03	Hespeler Creek	49.19303	-97.70938	4	15	062H04
B-03-095	19-Jun-03	Deadhorse Creek	49.22920	-97.90987	4	15	062H04
B-03-096	19-Jun-03	Walkof Coulee	49.16260	-97.94907	4	15	062H04
B-03-097	19-Jun-03	Hespeler Creek	49.16257	-97.91123	3	15	062H04
B-03-098	19-Jun-03	Deadhorse Creek	49.16298	-98.18523	3	15	062G01
B-03-099	20-Jun-03	Niso Creek	50.10175	-101.03867	4	78	062K03

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B-03-100	20-Jun-03	Niso Creek	50.07685	-101.10332	4	78	062K03
B-03-101	20-Jun-03	Plum Creek	49.64145	-100.39460	5	62	062F09
B-03-102	23-Jun-03	Rolling River	50.54137	-99.76968	4	81	062J12
B-03-103	23-Jun-03	Clear Creek	50.68302	-100.11407	3	80	062K09
B-03-104	23-Jun-03	Heron Creek	50.71255	-100.40020	2	80	062K09
B-03-105	24-Jun-03	Oak River	50.26993	-100.49682	5	72	062K08
B-03-106	24-Jun-03	Unnamed tributary to Oak River	50.35850	-100.53780	4	72	062K07
B-03-107	24-Jun-03	Wolfe Creek	50.46837	-100.57682	2	72	062K07
B-03-108	24-Jun-03	Oak River	50.47642	-100.58750	3	72	062K07
B-03-109	24-Jun-03	Hales Creek	49.91252	-100.50812	4	73	062F15
B-03-110	26-Jun-03	Pierce Drain	50.09297	-98.99598	2	38	062J02
B-03-111	26-Jun-03	Campbell Drain	50.03045	-98.99607	3	38	062J02
B-03-112	26-Jun-03	Pine Creek	50.02147	-99.06473	3	38	062J03
B-03-113	26-Jun-03	Boggy Creek	50.04882	-99.43942	4	40	062J03
B-03-114	26-Jun-03	Boggy Creek	50.00503	-99.56815	4	40	062J04
B-03-115	27-Jun-03	Lepington Drain	49.98957	-99.04175	3	38	062G14
B-03-116	27-Jun-03	Pine Creek	50.00463	-99.11522	3	38	062J03
B-03-117	27-Jun-03	McCullough Drain	50.04183	-99.12720	2	38	062J03
B-03-118	27-Jun-03	Unnamed tributary to Pine Creek	50.01937	-99.09002	2	38	062J03
B-03-119	2-Jul-03	Unnamed tributary to Squirrel Creek	49.87163	-98.94632	3	37	062G15
B-03-120	2-Jul-03	East Branch Squirrel Creek	49.93845	-98.94965	4	37	062G15
B-03-121	3-Jul-03	Unnamed tributary to West Branch Squirrel Creek	49.89822	-99.01798	2	37	062G14
B-03-122	3-Jul-03	West Branch Squirrel Creek	49.94818	-98.98330	3	37	062G15
B-03-123	3-Jul-03	Jensen Drain	50.03410	-98.83572	3	37	062J02
B-03-124	3-Jul-03	Squirrel Creek	50.07830	-98.82420	4	37	062J02

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B-03-125	3-Jul-03	Old Squirrel Creek	50.12340	-98.72118	3	37	062J02
B-03-126	4-Jul-03	Bell Creek	49.62425	-100.82662	2	62	062F10
B-03-127	4-Jul-03	Stony Creek	49.39818	-101.09898	3	63	062F06
B-03-128	4-Jul-03	Stony Creek	49.45547	-100.96337	3	63	062F07
B-03-129	4-Jul-03	Stony Creek	49.45437	-100.87280	4	63	062F07
B-03-130	4-Jul-03	Maple Lake Drain	49.48797	-100.80522	4	63	062F07
B-03-131	4-Jul-03	Bell Creek	49.63045	-100.84913	2	62	062F10
B-03-132	7-Jul-03	Stony Creek	50.27203	-99.68053	4	39	062J05
B-03-133	7-Jul-03	Logan's Creek	50.31415	-99.70532	3	39	062J05
B-03-134	7-Jul-03	Stony Creek	50.31467	-99.67837	3	39	062J05
B-03-135	7-Jul-03	Stony Creek	50.32777	-99.66738	3	39	062J05
B-03-136	7-Jul-03	Stony Creek	50.33440	-99.65313	3	39	062J05
B-03-137	7-Jul-03	Jordan Creek Drain	50.38812	-99.32843	3	42	062J06
B-03-138	7-Jul-03	Lach Drain	50.41770	-98.98425	3	42	062J07
B-03-139	7-Jul-03	Jordan Creek Drain	50.38815	-98.90985	4	42	062J07
B-03-140	8-Jul-03	Black Creek	49.60505	-99.80273	3	69	062G12
B-03-141	8-Jul-03	Unnamed tributary to Black Creek	49.59530	-99.80277	2	69	062G12
B-03-142	8-Jul-03	Black Creek	49.60432	-99.73425	4	69	062G12
B-03-143	8-Jul-03	Black Creek	49.61945	-99.67737	4	69	062G12
B-03-144	9-Jul-03	Unnamed tributary to Souris River	49.53290	-100.16113	3	68	062F09
B-03-145	9-Jul-03	Elgin Creek	49.56193	-100.25575	4	68	062F09
B-03-146	9-Jul-03	Elgin Creek	49.53292	-100.27318	4	68	062F09
B-03-147	9-Jul-03	Unnamed tributary to Elgin Creek	49.53247	-100.31080	3	68	062F09
B-03-148	9-Jul-03	Cherry Creek	49.22800	-100.08203	4	68	062F01
B-03-149	9-Jul-03	Unnamed tributary to Whitewater Lake	49.20792	-100.24327	4	68	062F01

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-03-150	9-Jul-03	Unnamed tributary to Whitewater Lake	49.17758	-100.32225	3	68	062F01
B-03-151	10-Jul-03	Silver Creek	50.55635	-101.36533	4	79	062K11
B-03-152	10-Jul-03	Silver Creek	50.62338	-101.25680	4	79	062K11
B-03-153	10-Jul-03	East Silver Creek	50.64403	-101.18287	3	79	062K11
B-03-154	10-Jul-03	East Silver Creek	50.68288	-101.04655	3	79	062K11
B-03-155	11-Jul-03	Silver Creek	50.68278	-101.20237	3	79	062K11
B-03-156	11-Jul-03	Unnamed tributary to Silver Creek	50.68278	-101.22393	2	79	062K11
B-03-157	11-Jul-03	Unnamed tributary to Silver Creek	50.67475	-101.24587	2	79	062K11
B-03-158	11-Jul-03	Thunder Creek	50.93373	-101.38012	4	92	062K14
B-03-159	11-Jul-03	Bear Creek	50.95640	-101.24617	3	92	062K14
B-03-160	11-Jul-03	Thunder Creek	50.88928	-101.29570	4	92	062K14
B-03-161	14-Jul-03	Unnamed tributary to Stony Creek	50.17818	-99.52258	3	39	062J04
B-03-162	14-Jul-03	Franklin Creek	50.21329	-99.52256	2	39	062J04
B-03-163	14-Jul-03	Whitemud River	50.13473	-98.58355	6	42	062J02
B-03-164	14-Jul-03	Unnamed tributary to Whitemud River	50.18151	-98.58338	3	42	062J02
B-03-165	14-Jul-03	Unnamed tributary to Whitemud River	50.21132	-98.58357	3	42	062J02
B-03-166	14-Jul-03	Unnamed tributary to Whitemud River	50.22590	-98.60670	2	42	062J02
B-03-167	14-Jul-03	Unnamed tributary to Whitemud River	50.24073	-98.61492	2	42	062J02
B-03-168	14-Jul-03	Unnamed tributary to Lake Manitoba	50.28452	-98.61468	2	41	062J07
B-03-169	14-Jul-03	Unnamed tributary to Lake Manitoba	50.29935	-98.61482	2	41	062J07
B-03-170	14-Jul-03	Unnamed tributary to Lake Manitoba	50.31405	-98.61477	2	41	062J07
B-03-171	14-Jul-03	Unnamed tributary to Lake Manitoba	50.32870	-98.61467	2	41	062J07
B-03-172	14-Jul-03	Unnamed tributary to Lake Manitoba	50.34358	-98.61465	2	41	062J07
B-03-173	14-Jul-03	Unnamed tributary to Lake Manitoba	50.35837	-98.61475	2	41	062J07
B-03-174	14-Jul-03	Unnamed tributary to Lake Manitoba	50.41748	-98.61480	2	41	062J07

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-03-175	14-Jul-03	Unnamed tributary to Lake Manitoba	50.43263	-98.61485	2	41	062J07
B-03-176	14-Jul-03	Unnamed tributary to Lake Manitoba	50.44737	-98.61482	2	41	062J07
B-03-177	14-Jul-03	Unnamed tributary to Lake Manitoba	50.46192	-98.61480	2	41	062J07
B-03-178	14-Jul-03	Unnamed tributary to Lake Manitoba	50.47662	-98.61480	2	41	062J07
B-03-179	14-Jul-03	Carriere Drain	50.63897	-98.71737	2	41	062J10
B-03-180	14-Jul-03	Smalley School Drain	50.66845	-98.69398	3	41	062J10
B-03-181	15-Jul-03	Whitemud River	50.17417	-99.15660	6	39	062J03
B-03-182	16-Jul-03	St. Malo Canal	49.31078	-96.98503	3	4	062H07
B-03-183	16-Jul-03	St. Malo Canal	49.35447	-96.98485	3	4	062H07
B-03-184	16-Jul-03	Coulee des Nault	49.38398	-96.96207	3	4	062H07
B-03-185	16-Jul-03	Joubert Creek	49.38455	-96.88180	3	4	062H07
B-03-186	16-Jul-03	Sarto Creek	49.40190	-96.87193	3	4	062H07
B-03-187	16-Jul-03	St. Pierre Creek	49.46852	-97.00622	3	4	062H06
B-03-188	16-Jul-03	Otterburne East Drain	49.50242	-97.01925	3	4	062H11
B-03-189	16-Jul-03	Carey Drain	49.50227	-97.08927	4	4	062H11
B-03-190	16-Jul-03	Joubert Creek	49.32550	-96.76338	3	4	062H07
B-03-191	17-Jul-03	Joubert Creek Extension	49.28988	-96.52282	3	4	062H07
B-03-192	17-Jul-03	Joubert Creek Extension	49.28152	-96.60808	3	4	062H07
B-03-193	17-Jul-03	Rat River	49.21035	-96.14815	4	3	062H01
B-03-194	22-Jul-03	Joe River	49.01567	-97.17793	3	2	062H03
B-03-195	23-Jul-03	Main Drain	49.05962	-97.06970	3	2	062H03
B-03-196	23-Jul-03	Fredensthal Drain	49.05958	-97.07740	3	2	062H03
B-03-197	23-Jul-03	Ridgeville Drain	49.08818	-97.05416	3	2	062H03
B-03-198	23-Jul-03	Harlow Drain	49.12092	-97.05515	3	2	062H03
B-03-199	23-Jul-03	Stewart Drain	49.15470	-97.03335	3	2	062H03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-03-200	23-Jul-03	Riviere Aux Marais	49.13340	-97.29205	4	15	062H03
B-03-201	23-Jul-03	Roseau River	49.14862	-97.17067	5	2	062H03
B-03-202	23-Jul-03	Jordan River	49.14821	-96.94769	3	2	062H02
B-03-203	23-Jul-03	Gardenton Drain	49.05935	-96.68487	3	2	062H02
B-03-204	23-Jul-03	Gardenton Drain	49.07408	-96.68408	3	2	062H02
B-03-205	23-Jul-03	Gardenton Floodway	49.07564	-96.62845	4	2	062H02
B-03-206	24-Jul-03	Vita Drain	49.17632	-96.76380	4	2	062H02
B-03-207	24-Jul-03	Vita Drain	49.14832	-96.60662	3	2	062H02
B-03-208	24-Jul-03	Conroy Creek	49.13778	-96.58417	2	2	062H02
B-03-209	24-Jul-03	Vita Drain	49.13327	-96.52985	3	2	062H02
B-03-210	24-Jul-03	Vita Drain	49.11175	-96.41177	2	2	062H01
B-03-211	24-Jul-03	Roseau River	49.02895	-96.52735	3	2	062H02
B-03-212	24-Jul-03	Arbakka Drain	49.02972	-96.49340	3	2	062H01
B-03-213	24-Jul-03	Arbakka Drain	49.03046	-96.38191	3	2	062H01
B-03-214	25-Jul-03	Marsh River	49.29572	-97.21220	3	5	062H06
B-03-215	25-Jul-03	Arnaud Drain	49.29568	-97.18065	3	5	062H06
B-03-216	25-Jul-03	Ste. Elizabeth Drain	49.32515	-97.16527	3	5	062H06
B-03-217	25-Jul-03	Angle Drain	49.36520	-97.12025	3	5	062H06
B-03-218	25-Jul-03	Dufrost North Drain	49.38415	-97.12040	3	5	062H06
B-03-219	25-Jul-03	Unnamed tributary to Marsh River	49.38398	-97.14470	4	5	062H06
B-03-220	25-Jul-03	Unnamed tributary to Marsh River	49.39835	-97.16553	4	5	062H06
B-03-221	25-Jul-03	Marsh River	49.44277	-97.17288	5	5	062H06
B-03-222	25-Jul-03	Aubigny Drain	49.41895	-97.26865	3	5	062H06
B-03-223	5-Aug-03	Meleb Drain	50.68437	-97.00048	3	31E	062I11
B-03-224	5-Aug-03	Fish Lake Drain	50.69717	-96.99617	3	31E	062I10

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-03-225	5-Aug-03	Drunken River Drain	50.82783	-96.99515	3	31E	062I15
B-03-226	6-Aug-03	Unnamed tributary to Lake Winnipeg	50.61078	-96.98990	2	31E	062I10
B-03-227	6-Aug-03	Boundary Creek	50.50882	-96.97563	4	31E	062I10
B-03-228	6-Aug-03	Boundary Creek	50.51762	-96.99892	4	31E	062I10
B-03-229	6-Aug-03	Boundary Creek Drain	50.52147	-97.00853	4	31E	062I11
B-03-230	6-Aug-03	Boundary Creek Drain	50.50703	-97.09737	4	31E	062I11
B-03-231	6-Aug-03	Bass Drain	50.57792	-97.11422	4	31E	062I11
B-03-232	6-Aug-03	Peiluck Drain	50.59580	-97.16718	3	31E	062I11
B-03-233	6-Aug-03	Bass Drain	50.58107	-97.13785	3	31E	062I11
B-03-234	6-Aug-03	Unnamed tributary to Lake Winnipeg	50.64015	-97.06493	3	31E	062I11
B-03-235	6-Aug-03	Fish Lake Drain	50.70648	-97.06488	3	31E	062I11
B-03-236	6-Aug-03	Wheathill Drain	50.80803	-97.53253	3	31E	062I13
B-03-237	7-Aug-03	Unnamed tributary to Hatchery Drain	50.61235	-98.05362	2	31W	062J09
B-03-238	7-Aug-03	Hatchery Drain	50.62223	-98.05957	3	31W	062J09
B-03-239	7-Aug-03	Swan Creek	50.68348	-98.14300	5	31W	062J09
B-03-240	7-Aug-03	Mud Lake Drain	50.69818	-98.11130	3	31W	062J09
B-03-241	7-Aug-03	Swan Creek	50.71453	-98.11113	5	31W	062J09
B-03-242	7-Aug-03	Bumt Lake Drain	50.72067	-98.07552	4	31W	062J09
B-03-243	7-Aug-03	Hayward Drain	50.72773	-98.16783	3	31W	062J09
B-03-244	7-Aug-03	Swan Lake Dam	50.80040	-98.16943	3	31W	062J16
B-03-245	7-Aug-03	Wagon Creek	50.55005	-98.03320	2	31W	062J09
B-03-246	8-Aug-03	Tugela Creek	50.45720	-96.96268	3	30	062I07
B-03-247	8-Aug-03	Cochrane Drain	50.39555	-96.96815	3	30	062I07
B-03-248	8-Aug-03	Fisher Drain	50.34375	-96.92898	3	30	062I07
B-03-249	8-Aug-03	Ross Creek	50.32662	-97.09052	4	30	062I06

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-03-250	8-Aug-03	Unnamed tributary to Netley Creek	50.35955	-97.09643	3	30	062I06
D-03-001	8-May-03	Big Grass River	50.50593	-98.97183	5	43	062J10
D-03-002	10-May-03	Garland River	51.65862	-100.63463	3	103	062N10
D-03-003	10-May-03	Fishing River	51.46812	-100.36753	4	49	062N08
D-03-004	11-May-03	Garland River	51.64702	-100.43913	5	103	062N09
D-03-005	11-May-03	Mink Creek	51.41390	-100.35332	4	49	062N08
D-03-006	12-May-03	Harper Creek	51.09350	-100.69538	3	48	062N02
D-03-007	12-May-03	Harper Creek	51.06652	-100.72873	2	48	062N02
D-03-008	13-May-03	Turtle River	51.05060	-99.53197	5	45	062O04
D-03-009	13-May-03	Hanson Creek	51.05195	-99.42447	3	45	062O03
D-03-010	13-May-03	Hanson Creek	50.99295	-99.38610	3	45	062J14
D-03-011	13-May-03	Turtle River	50.90443	-99.50482	5	45	062J13
D-03-012	13-May-03	Henderson Creek	50.91914	-99.60153	4	45	062J13
D-03-013	13-May-03	Laurier Drain	50.91914	-99.60153	3	45	062J13
D-03-014	13-May-03	Kergwenan Drain	50.94855	-99.67177	3	45	062J13
D-03-015	14-May-03	Scott Creek	50.86032	-99.54002	4	44	062J13
D-03-016	14-May-03	Scott Creek	50.81627	-99.59420	3	44	062J13
D-03-017	14-May-03	Dead Ox Creek	50.70065	-99.53162	2	44	062J12
D-03-018	14-May-03	Unnamed tributary to Reeve Drain	50.68327	-99.52493	2	44	062J12
D-03-019	14-May-03	Reeve Drain	50.71283	-99.48490	4	44	062J11
D-03-020	14-May-03	Norgate Drain	50.65354	-99.48504	3	44	062J11
D-03-021	3-Jun-03	Unnamed tributary to North Shannon Creek	49.31062	-97.93373	3	16	062H05
D-03-022	3-Jun-03	North Shannon Creek	49.29415	-97.93373	3	16	062H05
D-03-023	3-Jun-03	Shannon Creek	49.27322	-97.95625	4	16	062H05
D-03-024	3-Jun-03	Shannon Creek	49.27134	-97.97879	4	16	062H05

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D-03-025	3-Jun-03	Thornhill Coulee	49.25143	-98.08298	3	16	062G08
D-03-026	3-Jun-03	Shannon Creek	49.27365	-98.13723	3	16	062G08
D-03-027	4-Jun-03	Shannon Creek at Lizard Lake	49.29650	-98.38620	3	16	062G08
D-03-028	4-Jun-03	Shannon Creek	49.29627	-98.32208	3	16	062G08
D-03-029	4-Jun-03	Shannon Creek	49.26633	-98.20980	3	16	062G08
D-03-030	4-Jun-03	Unnamed tributary to Pembina River	49.08313	-98.46998	2	60	062G01
D-03-031	4-Jun-03	Unnamed tributary to Pembina River	49.06282	-98.46978	1	60	062G01
D-03-032	4-Jun-03	Unnamed tributary to Little Pembina River	49.10185	-98.42488	2	60	062G01
D-03-033	4-Jun-03	Unnamed tributary to Pembina River	49.01522	-98.32603	2	60	062G01
D-03-034	4-Jun-03	Unnamed tributary to Pembina River	49.04385	-98.15540	2	60	062G01
D-03-035	5-Jun-03	Little Pembina River	49.17773	-98.39963	2	60	062G01
D-03-036	5-Jun-03	Pembina River	49.05787	-98.46980	6	60	062G01
D-03-037	5-Jun-03	Unnamed tributary to Pembina River	49.12270	-98.42507	3	60	062G01
D-03-038	6-Jun-03	Shell River	50.96448	-101.31578	5	92	062K14
D-03-039	10-Jun-03	Buffalo Creek	49.04478	-97.86363	3	15	062H04
D-03-040	10-Jun-03	Unnamed tributary to Buffalo Creek	49.01253	-97.72898	4	15	062H04
D-03-041	10-Jun-03	Unnamed tributary to South Buffalo Creek	49.01555	-97.71647	4	15	062H04
D-03-042	10-Jun-03	Unnamed tributary to Buffalo Creek	49.03018	-97.68430	4	15	062H04
D-03-043	10-Jun-03	Buffalo Creek	49.06043	-97.70657	3	15	062H04
D-03-044	11-Jun-03	Reinland Drain	49.03005	-97.93112	2	15	062H04
D-03-045	11-Jun-03	Unnamed tributary to Buffalo Creek	49.01540	-97.82960	3	15	062H04
D-03-046	11-Jun-03	Unnamed tributary to Buffalo Creek	49.01525	-97.81882	3	15	062H04
D-03-047	11-Jun-03	Unnamed tributary to South Buffalo Creek	49.01528	-97.81000	3	15	062H04
D-03-048	11-Jun-03	Unnamed tributary to Buffalo Creek	49.01542	-97.74723	4	15	062H04
D-03-049	11-Jun-03	Unnamed tributary to Buffalo Creek	49.04492	-97.69533	4	15	062H04

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D-03-050	13-Jun-03	Kaspic Creek	50.15025	-99.68313	2	40	062J04
D-03-051	13-Jun-03	Brookdale Drain	50.12260	-99.68033	2	40	062J04
D-03-052	13-Jun-03	Kaspic Creek	50.12265	-99.63665	2	40	062J04
D-03-053	13-Jun-03	Kaspic Creek	50.07688	-99.56842	3	40	062J04
D-03-054	13-Jun-03	Brookdale Drain	50.05963	-99.56840	3	40	062J04
D-03-055	13-Jun-03	Brookdale Drain	50.04885	-99.57398	3	40	062J04
D-03-056	13-Jun-03	Boggy Creek	50.00507	-99.56818	4	40	062J04
D-03-057	13-Jun-03	Brookdale Drain	50.19263	-99.45432	4	40	062J03
D-03-058	16-Jun-03	Edwards Creek Drain	51.15445	-99.89917	5	47	062O04
D-03-059	16-Jun-03	Edwards Creek Drain	51.13330	-99.96952	4	47	062O04
D-03-060	16-Jun-03	Old Edwards Creek	51.16988	-99.95360	3	47	062O04
D-03-061	17-Jun-03	Fork River Drain	51.52227	-100.36995	5	102	062N09
D-03-062	17-Jun-03	Shanty Creek	51.50002	-100.55668	3	102	062N10
D-03-063	17-Jun-03	Shanty Creek	51.50173	-100.53325	3	102	062N10
D-03-064	17-Jun-03	Unnamed tributary to Shanty Creek	51.50895	-100.53309	2	102	062N10
D-03-065	17-Jun-03	Shanty Creek	51.50721	-100.46324	3	102	062N09
D-03-066	18-Jun-03	Fork River	51.53875	-100.61257	3	102	062N10
D-03-067	18-Jun-03	Fork River	51.56118	-100.48697	4	102	062N09
D-03-068	18-Jun-03	Fork River	51.57460	-100.44858	4	102	062N09
D-03-069	18-Jun-03	Fork River	51.53658	-100.40317	4	102	062N09
D-03-070	23-Jun-03	Zoria Drain	51.32210	-100.36245	3	95	062N08
D-03-071	23-Jun-03	Drifting River	51.30253	-100.35953	4	95	062N08
D-03-072	23-Jun-03	Sulphurspring Creek	51.33280	-100.67922	2	95	062N07
D-03-073	23-Jun-03	Unnamed tributary to Mink Creek	51.34395	-100.60393	2	49	062N07
D-03-074	24-Jun-03	Sulphurspring Creek	51.22507	-100.48492	3	95	062N01

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D-03-075	24-Jun-03	Sulphurspring Creek	51.22328	-100.39150	3	95	062N01
D-03-076	24-Jun-03	Sulphurspring Creek	51.22713	-100.36790	3	95	062N01
D-03-077	24-Jun-03	Unnamed tributary to Valley River	51.20407	-100.39130	3	95	062N01
D-03-078	24-Jun-03	Browns Creek	51.09597	-100.50000	4	48	062N02
D-03-079	24-Jun-03	Wilson River	51.09765	-100.62512	4	48	062N02
D-03-080	24-Jun-03	Wilson River	51.02637	-100.62508	3	48	062N02
D-03-081	24-Jun-03	Ranch Creek	51.03698	-100.43998	3	48	062N01
D-03-082	24-Jun-03	Mineral Creek	51.06500	-100.41457	3	48	062N01
D-03-083	26-Jun-03	Ruby Creek	51.96847	-101.28397	4	51	062N14
D-03-084	26-Jun-03	Ruby Creek	51.78025	-101.35925	2	51	062N14
D-03-085	27-Jun-03	North Pine River	51.82133	-100.53383	4	104	062N15
D-03-086	27-Jun-03	South Pine River	51.79860	-100.38640	4	104	062N16
D-03-087	27-Jun-03	Pine River Drain	51.79847	-100.44093	3	104	062N16
D-03-088	2-Jul-03	Valley River	51.18470	-100.85283	4	94	062N02
D-03-089	2-Jul-03	Pleasant Valley Creek	51.13947	-100.84117	4	94	062N02
D-03-090	2-Jul-03	Pleasant Valley Dam	51.05535	-100.94740	4	94	062N02
D-03-091	3-Jul-03	Munson Creek	51.19503	-100.93637	3	94	062N02
D-03-092	3-Jul-03	Short Creek	51.23353	-101.03527	3	94	062N03
D-03-093	3-Jul-03	Short Creek	51.25768	-101.15483	3	94	062N06
D-03-094	8-Jul-03	Smith Creek	52.22728	-101.22763	4	89	063C03
D-03-095	8-Jul-03	Smith Creek	52.22018	-101.27542	4	89	063C03
D-03-096	8-Jul-03	Smith Creek	52.21086	-101.34689	4	89	063C03
D-03-097	9-Jul-03	Woody River	52.14353	-101.59027	5	89	063C04
D-03-098	9-Jul-03	Hart Creek	52.13817	-101.60902	2	89	063C04
D-03-099	9-Jul-03	Whitebeech Creek	52.08535	-101.58408	3	89	063C04

Appendix 1: **Table listing the site number, date sampled, site name, latitude and longitude (in decimal degrees - DD), DES stream order, DES map number and the corresponding NTS map number for all sites surveyed between 2002 and 2006.**

Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-03-100	9-Jul-03	Whitebeech Creek	52.09658	-101.46588	4	89	063C03
D-03-101	9-Jul-03	Trout Creek	52.20177	-101.51448	2	89	063C04
D-03-102	11-Jul-03	Crawford/Rainbow Creek	51.13113	-99.80932	2	46	062O04
D-03-103	11-Jul-03	Crawford Creek	51.08135	-99.81408	3	46	062O04
D-03-104	11-Jul-03	Crooked Creek	51.12552	-99.82863	3	46	062O04
D-03-105	11-Jul-03	Crawford Creek	51.12550	-99.81195	2	46	062O04
D-03-106	14-Jul-03	Spring Creek	50.27143	-99.58098	3	39	062J05
D-03-107	14-Jul-03	Unnamed tributary to Spring Creek	50.26977	-99.51453	2	39	062J05
D-03-108	14-Jul-03	Unnamed tributary to Spring Creek	50.26972	-99.48742	2	39	062J06
D-03-109	14-Jul-03	Law Creek	50.31113	-99.44677	3	39	062J06
D-03-110	14-Jul-03	Spring Creek	50.27488	-99.44682	4	39	062J06
D-03-111	14-Jul-03	Spring Creek	50.26980	-99.41103	4	39	062J06
D-03-112	15-Jul-03	Unnamed tributary to Stony Creek	50.17592	-99.61320	3	39	062J04
D-03-113	15-Jul-03	Unnamed tributary to Whitemud River	50.18872	-99.56810	3	39	062J04
D-03-114	15-Jul-03	Franklin Creek	50.21309	-99.56820	2	39	062J04
D-03-115	15-Jul-03	Franklin Creek	50.21067	-99.50660	2	39	062J04
D-03-116	15-Jul-03	Unnamed tributary to Stony Creek	50.19695	-99.50083	3	39	062J04
D-03-117	15-Jul-03	Stony Creek	50.21128	-99.47622	5	39	062J03
D-03-118	15-Jul-03	Eden Creek	50.43262	-99.56432	3	39	062J05
D-03-119	15-Jul-03	Unnamed tributary to Eden Creek	50.35828	-99.49928	3	39	062J06
D-03-120	15-Jul-03	Snake Creek	50.28463	-99.27833	5	39	062J06
D-03-121	16-Jul-03	North Snake Creek	50.44123	-99.46982	3	43	062J06
D-03-122	16-Jul-03	Kinch Creek	50.60957	-99.44463	3	43	062J11
D-03-123	16-Jul-03	Unnamed tributary to Glencairn Drain	50.63895	-99.43853	3	43	062J11
D-03-124	16-Jul-03	Kinch Creek	50.63898	-99.41532	3	43	062J11

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-03-125	16-Jul-03	Big Grass River Angle Ditch	50.65390	-99.25258	3	43	062J11
D-03-126	17-Jul-03	Glencairn Drain	50.65360	-99.41518	4	43	062J11
D-03-127	17-Jul-03	Glencairn Drain	50.65405	-99.30693	4	43	062J11
D-03-128	17-Jul-03	Potrebka Drain	50.65390	-99.22915	2	43	062J11
D-03-129	17-Jul-03	Little Pocket Lake Drain	50.68343	-99.25225	3	43	062J11
D-03-130	17-Jul-03	Big Grass River Angle Ditch	50.68342	-99.27617	3	43	062J11
D-03-131	17-Jul-03	McLung Creek	50.57968	-99.47700	2	43	062J11
D-03-132	17-Jul-03	McLung Creek	50.58760	-99.42347	3	43	062J11
D-03-133	17-Jul-03	Big Grass River Angle Ditch	50.59482	-99.19725	3	43	062J11
D-03-134	17-Jul-03	Correction Line Drain	50.59470	-99.31715	3	43	062J11
D-03-135	18-Jul-03	Kinch Creek	50.59470	-99.49342	2	43	062J11
D-03-136	18-Jul-03	Glenella Drain	50.56497	-99.45583	3	43	062J11
D-03-137	18-Jul-03	Riding Mountain Drain	50.53231	-99.50620	2	43	062J12
D-03-138	18-Jul-03	Pelican Creek	50.52087	-99.33138	4	43	062J11
D-03-139	18-Jul-03	North Snake Creek	50.46893	-99.58530	3	43	062J05
D-03-140	21-Jul-03	North Duck River	52.01997	-100.67997	3	105	063C02
D-03-141	22-Jul-03	Unnamed tributary to Old Government Drain	52.05612	-101.00397	2	52	063C03
D-03-142	22-Jul-03	Unnamed tributary to North Duck River	51.98453	-100.67992	3	105	062N15
D-03-143	22-Jul-03	Harpiak Drain	52.00702	-100.67990	2	105	063C02
D-03-144	22-Jul-03	Wasyliuk Drain	51.83262	-100.58300	3	105	062N15
D-03-145	22-Jul-03	South Duck River	51.88220	-100.61292	3	105	062N15
D-03-146	22-Jul-03	Unnamed tributary to South Duck River	51.88547	-100.61907	2	105	062N15
D-03-147	23-Jul-03	Mullin Creek	52.25258	-101.25148	3	89	063C06
D-03-148	23-Jul-03	Nine Creek	52.28910	-101.23303	3	89	063C06
D-03-149	23-Jul-03	Bell Creek	52.58982	-101.01525	2	97	063C11

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-03-150	23-Jul-03	Glover Creek	52.56568	-100.99187	2	97	063C10
D-03-151	23-Jul-03	Bell Creek	52.56560	-100.94505	2	97	063C10
D-03-152	23-Jul-03	Bell Creek	52.55560	-100.89725	3	97	063C10
D-03-153	23-Jul-03	Stapely Creek	52.58003	-100.89705	2	97	063C10
D-03-154	23-Jul-03	Steeprock River	52.73200	-101.11510	5	115	063C11
D-03-155	23-Jul-03	Campbells Creek	52.69747	-101.11458	2	115	063C11
D-03-156	23-Jul-03	Smith Creek	52.66252	-101.11285	2	115	063C11
D-03-157	24-Jul-03	Mafeking Creek	52.68177	-101.10958	3	115	063C11
D-03-158	24-Jul-03	Unnamed tributary to Steeprock River	52.65172	-101.10378	2	115	063C11
D-03-159	24-Jul-03	Unnamed tributary to Wood Drain	52.51438	-101.01538	2	90	063C11
D-03-160	24-Jul-03	Hamel Drain	52.49287	-100.99177	2	90	063C07
D-03-161	24-Jul-03	Schlagg Drain	52.47842	-100.99180	2	90	063C07
D-03-162	24-Jul-03	Brandt Drain	52.46373	-100.99167	3	90	063C07
D-03-163	24-Jul-03	McKinley Drain	52.43490	-100.99224	3	90	063C07
D-03-164	24-Jul-03	Indian Birch River	52.40467	-100.99170	4	90	063C07
D-03-165	24-Jul-03	Haggarty Creek	52.36665	-101.11028	3	90	063C06
D-03-166	24-Jul-03	Robinson Creek	52.35210	-101.11052	2	90	063C06
D-03-167	25-Jul-03	Sclater River	51.92565	-100.65217	3	105	062N15
D-03-168	10-Sep-03	Unnamed tributary to Boggy River	49.64085	-95.49817	2	84	052E10
D-03-169	11-Sep-03	Unnamed tributary to Boggy River	49.64325	-95.50053	2	84	052E11
D-03-170	11-Sep-03	Unnamed tributary to Boggy River	49.62934	-95.50059	2	84	052E11
W-03-001	20-May-03	Maple Creek	50.28308	-96.09032	3	96	062I08
W-03-002	21-May-03	Maple Creek	50.26790	-96.09853	3	96	062I08
W-03-003	21-May-03	Unnamed tributary to Winnipeg River	50.16363	-96.07923	2	96	062I01
W-03-004	21-May-03	Unnamed tributary to Winnipeg River	50.17881	-96.08526	2	96	062I01

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-03-005	21-May-03	Unnamed tributary to Winnipeg River	50.48430	-96.08690	2	96	062I08
W-03-006	21-May-03	Maple Creek	50.44700	-96.07542	4	96	062I08
W-03-007	21-May-03	Unnamed tributary to Winnipeg River	50.45838	-96.04228	2	96	062I08
W-03-008	22-May-03	Selkirk Line West	50.14992	-96.45197	3	10	062I01
W-03-009	22-May-03	Beaver Creek	50.13738	-96.45190	2	10	062I01
W-03-010	22-May-03	Bachman Drain	50.12057	-96.46045	3	10	062I01
W-03-011	22-May-03	Bachman Drain	50.12058	-96.47667	3	10	062I01
W-03-012	22-May-03	Unnamed tributary to Brokenhead River	50.32615	-96.50957	2	10	062I07
W-03-013	23-May-03	Oneschuk Drain	50.20777	-96.46305	3	10	062I01
W-03-014	26-May-03	Unnamed tributary to Colony Creek	49.99007	-97.34428	3	26	062H14
W-03-015	26-May-03	Colony Creek	49.99027	-97.37842	3	26	062H14
W-03-016	26-May-03	Unnamed tributary to Sturgeon Creek	49.99027	-97.40468	2	26	062H14
W-03-017	26-May-03	Unnamed tributary to Sturgeon Creek	49.98995	-97.42855	2	26	062H14
W-03-018	26-May-03	Old Sturgeon Creek	49.99022	-97.48455	2	26	062H14
W-03-019	26-May-03	Sturgeon Creek	49.99045	-97.50505	4	26	062H13
W-03-020	26-May-03	Fourth Creek	49.95917	-97.51802	2	26	062H13
W-03-021	27-May-03	Third Creek	49.94900	-97.52238	1	26	062H13
W-03-022	27-May-03	Confluence of Old Sturgeon Creek and Sturgeon Creek	49.97618	-97.48253	2	26	062H14
W-03-023	27-May-03	Unnamed tributary to Sturgeon Creek	49.96797	-97.48207	2	26	062H14
W-03-024	27-May-03	Confluence of Sturgeon Creek and Meridian Drain	49.92637	-97.43190	3	26	062H14
W-03-025	27-May-03	Meridian Drain	49.94593	-97.45923	3	26	062H14
W-03-026	27-May-03	Unnamed tributary to Sturgeon Creek	49.96072	-97.39005	2	26	062H14
W-03-027	27-May-03	Gordon Drain	50.00480	-97.32138	2	26	062I03
W-03-028	28-May-03	Unnamed tributary to Colony Creek	50.06382	-97.46227	3	26	062I03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-03-029	28-May-03	Unnamed tributary to Colony Creek	50.06403	-97.47753	2	26	062I03
W-03-030	28-May-03	East Branch Sturgeon Creek	50.06382	-97.54338	3	26	062I04
W-03-031	28-May-03	West Branch Sturgeon Creek	50.06377	-97.57495	4	26	062I04
W-03-032	28-May-03	West Branch Sturgeon Lateral Drain	50.12300	-97.65255	3	26	062I04
W-03-033	28-May-03	West Branch Sturgeon Creek	50.18200	-97.68262	3	26	062I04
W-03-034	28-May-03	East Branch Sturgeon Creek	50.17875	-97.61833	3	26	062I04
W-03-035	29-May-03	Kosc Coulee	49.67258	-97.44642	3	22	062H11
W-03-036	29-May-03	King Drain	49.62827	-97.39045	4	20	062H11
W-03-037	29-May-03	Domain Drain	49.62078	-97.29222	3	22	062H11
W-03-038	29-May-03	Unnamed tributary to Domain Drain	49.62082	-97.27158	2	22	062H11
W-03-039	29-May-03	"B" Drain	49.62070	-97.18543	3	22	062H11
W-03-040	29-May-03	Glenlea Drain	49.61505	-97.14280	4	22	062H11
W-03-041	29-May-03	Atchison Drain	49.72395	-97.27128	2	22	062H11
W-03-042	29-May-03	Unnamed tributary to Atchison Drain	49.72383	-97.27648	2	22	062H11
W-03-043	29-May-03	Oak Bluff Drain	49.72395	-97.30212	3	22	062H11
W-03-044	3-Jun-03	Roblin Drain	49.50240	-98.08427	3	18	062G09
W-03-045	3-Jun-03	Unnamed tributary to Boyne River	49.53158	-98.30046	2	18	062G09
W-03-046	3-Jun-03	Unnamed tributary to Boyne River	49.53898	-98.34342	3	18	062G09
W-03-047	3-Jun-03	Unnamed tributary to Boyne River	49.54745	-98.34598	2	18	062G09
W-03-048	3-Jun-03	Unnamed tributary to Boyne River	49.54742	-98.39132	2	18	062G09
W-03-049	3-Jun-03	Roseisle Drain	49.50167	-98.34128	3	18	062G09
W-03-050	4-Jun-03	Boyne River	49.54503	-98.41453	4	18	062G09
W-03-051	4-Jun-03	Confluence of unnamed tributary and Boyne River	49.54100	-98.41468	2	18	062G09
W-03-052	4-Jun-03	Unnamed tributary to 7 - 7W Drain	49.59124	-98.34601	2	18	062G09
W-03-053	4-Jun-03	Unnamed tributary to Boyne River	49.65047	-98.52837	2	18	062G10

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-03-054	4-Jun-03	Unnamed tributary to Boyne River	49.65968	-98.52833	3	18	062G10
W-03-055	4-Jun-03	Boyne River	49.67823	-98.52853	4	18	062G10
W-03-056	4-Jun-03	Unnamed tributary to Boyne River	49.64583	-98.52830	2	18	062G10
W-03-057	4-Jun-03	Unnamed tributary to Boyne River	49.63575	-98.52820	2	18	062G10
W-03-058	4-Jun-03	Unnamed tributary to Boyne River	49.62110	-98.50843	2	18	062G10
W-03-059	4-Jun-03	Unnamed tributary to Boyne River	49.62103	-98.48962	3	18	062G09
W-03-060	5-Jun-03	Unnamed tributary to Boyne River	49.65068	-98.59017	3	18	062G10
W-03-061	5-Jun-03	Unnamed tributary to Boyne River	49.63582	-98.68477	2	18	062G10
W-03-062	5-Jun-03	Boyne River	49.63577	-98.69358	3	18	062G10
W-03-063	5-Jun-03	Unnamed tributary to Boyne River	49.63202	-98.70882	1	18	062G10
W-03-064	5-Jun-03	Unnamed tributary to Boyne River	49.63567	-98.71878	3	18	062G10
W-03-065	5-Jun-03	Boyne River	49.66523	-98.68842	4	18	062G10
W-03-066	5-Jun-03	Confluence of unnamed tributary and Boyne River	49.60243	-98.68733	3	18	062G10
W-03-067	6-Jun-03	Lyles Creek	49.38468	-98.45752	2	18	062G08
W-03-068	6-Jun-03	Unnamed tributary to Lyles Creek	49.38463	-98.47107	2	18	062G08
W-03-069	6-Jun-03	Unnamed tributary to Lyles Creek	49.49662	-98.54500	3	18	062G07
W-03-070	6-Jun-03	Lyles Creek	49.47370	-98.51955	3	18	062G07
W-03-071	9-Jun-03	Ste. Anne Drain	49.69302	-96.65352	3	9	062H10
W-03-072	9-Jun-03	Confluence of unnamed tributary and Fish Creek	49.73720	-96.63925	3	9	062H10
W-03-073	9-Jun-03	Seine River	49.66643	-96.65697	3	9	062H10
W-03-074	9-Jun-03	Unnamed tributary to Seine River	49.71545	-96.82963	2	9	062H10
W-03-075	9-Jun-03	Unnamed tributary to Seine River	49.73450	-96.88756	2	9	062H10
W-03-076	10-Jun-03	St. Pierre Drain	49.45025	-96.98523	3	4	062H07
W-03-077	10-Jun-03	Coulee Des Nault	49.38448	-96.98478	3	4	062H07
W-03-078	10-Jun-03	Joubert Creek	49.43750	-96.98532	4	4	062H07

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-03-079	10-Jun-03	Simard Creek	49.44385	-96.38885	3	8	062H08
W-03-080	10-Jun-03	Marchand East Drain	49.44377	-96.40932	3	8	062H08
W-03-081	11-Jun-03	Unnamed tributary to St. Adolphe Coulee	49.62057	-97.06003	2	6	062H11
W-03-082	11-Jun-03	Prefontaine Drain	49.64083	-97.06025	3	6	062H11
W-03-083	11-Jun-03	Unnamed tributary to St. Adolphe Coulee	49.65008	-97.06020	2	6	062H11
W-03-084	11-Jun-03	Prefontaine Drain	49.61687	-96.98053	3	6	062H10
W-03-085	11-Jun-03	Confluence unnamed tributary and D - 20 Drain	49.57615	-97.00297	3	6	062H11
W-03-086	11-Jun-03	Confluence unnamed tributary and D - 20 Drain	49.57632	-96.95752	3	6	062H10
W-03-087	11-Jun-03	Pansy Drain	49.38493	-96.73123	3	6	062H07
W-03-088	11-Jun-03	Tourond Creek	49.39945	-96.71372	3	6	062H07
W-03-089	13-Jun-03	Carey Drain	49.44315	-97.07518	3	4	062H06
W-03-090	13-Jun-03	Otterburne East Drain	49.50242	-96.98490	3	4	062H10
W-03-091	13-Jun-03	Sarto Creek	49.40180	-96.87180	3	4	062H07
W-03-092	13-Jun-03	Joubert Creek	49.31282	-96.71370	3	4	062H07
W-03-093	13-Jun-03	Joubert Creek Extension	49.28973	-96.52280	3	4	062H07
W-03-094	16-Jun-03	Unnamed tributary to Bog River	49.86043	-95.58132	1	83	052E12
W-03-095	16-Jun-03	Bog River	49.86789	-95.63941	2	83	052E12
W-03-096	16-Jun-03	Unnamed tributary to Monk Creek	49.82672	-95.90730	2	83	052E12
W-03-097	17-Jun-03	Bog River	49.89697	-95.71132	3	83	052E12
W-03-098	17-Jun-03	Unnamed tributary to Bog River	49.90912	-95.75447	2	83	052E12
W-03-099	17-Jun-03	Kellner Creek	49.87572	-95.96813	2	83	052E12
W-03-100	17-Jun-03	Kellner Creek	49.85587	-95.97517	2	83	052E12
W-03-101	18-Jun-03	Unnamed tributary to Monk Creek	49.88660	-95.91070	2	83	052E12
W-03-102	18-Jun-03	Unnamed tributary to Monk Creek	49.90160	-95.91272	1	83	052E12
W-03-103	18-Jun-03	Unnamed tributary to Whitemouth River	49.93919	-95.95471	2	83	052E12

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-03-104	18-Jun-03	Unnamed tributary to Whitemouth River	49.93357	-95.95472	2	83	052E12
W-03-105	18-Jun-03	Kellner Creek	49.91443	-95.95153	2	83	052E12
W-03-106	18-Jun-03	Unnamed tributary to Whitemouth River	49.92328	-95.94705	2	83	052E12
W-03-107	18-Jun-03	Unnamed tributary to Whitemouth River	49.96665	-95.98687	3	83	052E12
W-03-108	19-Jun-03	Unnamed tributary to Whitemouth River	50.07955	-96.02645	2	83	062I01
W-03-109	19-Jun-03	Unnamed tributary to Whitemouth River	50.06583	-96.02617	1	83	062I01
W-03-110	19-Jun-03	Smith Creek	50.04162	-96.00355	2	83	062I01
W-03-111	19-Jun-03	Oldenberg Creek	50.01930	-96.01522	2	83	062I01
W-03-112	19-Jun-03	Unnamed tributary to Whitemouth River	49.98053	-96.00300	2	83	062H16
W-03-113	24-Jun-03	St. Malo Canal	49.29580	-96.98470	3	4	062H07
W-03-114	24-Jun-03	Mosquito Creek	49.25332	-96.96297	3	4	062H07
W-03-115	24-Jun-03	Unnamed tributary to Rat River	49.26637	-96.88493	2	4	062H07
W-03-116	24-Jun-03	Rat River	49.27293	-96.84920	5	4	062H07
W-03-117	24-Jun-03	Unnamed tributary to Coulee des Nault	49.33240	-96.84907	2	4	062H07
W-03-118	24-Jun-03	West Drain	49.39952	-96.82648	3	4	062H07
W-03-119	24-Jun-03	Unnamed tributary to Tourond Creek	49.50247	-96.91695	2	4	062H10
W-03-120	25-Jun-03	Grassmere Creek Drain East Branch	50.26295	-97.38963	2	27	062I06
W-03-121	25-Jun-03	Grassmere Creek Drain East Branch	50.18200	-97.34513	2	27	062I03
W-03-122	25-Jun-03	Unnamed tributary to Grassmere Creek Drain East Branch	50.18190	-97.39108	3	27	062I03
W-03-123	25-Jun-03	Gramiak Drain	50.18197	-97.45967	3	27	062I03
W-03-124	25-Jun-03	Unnamed tributary to Grassmere Creek Drain West Branch	50.18208	-97.52868	2	27	062I04
W-03-125	25-Jun-03	Grassmere Creek Drain West Branch	50.18213	-97.54750	2	27	062I04
W-03-126	25-Jun-03	Grassmere Creek Drain West Branch	50.12278	-97.48537	3	27	062I03
W-03-127	25-Jun-03	Ekhart Drain	50.12278	-97.45938	3	27	062I03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-03-128	25-Jun-03	Grassmere Creek Drain Center Branch	50.12285	-97.39792	3	27	062I03
W-03-129	25-Jun-03	Grassmere Creek Drain East Branch	50.12263	-97.36648	4	27	062I03
W-03-130	25-Jun-03	Grassmere Creek Drain	50.04478	-97.32140	5	27	062I03
W-03-131	25-Jun-03	Unnamed tributary to Grassmere Creek Drain	50.06387	-97.18408	2	27	062I03
W-03-132	26-Jun-03	Gamby Drain	50.01942	-97.22947	2	27	062I03
W-03-133	26-Jun-03	Penitentiary Drain	50.06400	-97.20700	2	27	062I03
W-03-134	26-Jun-03	Confluence of unnamed tributary and Grassmere Creek Drain	50.02533	-97.18418	5	27	062I03
W-03-135	26-Jun-03	City Protection Drain	50.00497	-97.15323	3	27	062I03
W-03-136	26-Jun-03	Northumberland Drain	50.01745	-97.08368	3	28	062I03
W-03-137	26-Jun-03	Unnamed tributary to Red River	50.12470	-96.95993	2	28	062I02
W-03-138	26-Jun-03	Unnamed tributary to Red River	50.13173	-96.94842	2	28	062I02
W-03-139	26-Jun-03	Mirey Creek	50.08578	-96.94880	2	28	062I02
W-03-140	26-Jun-03	Bruneau Drain	50.07313	-97.04688	3	28	062I03
W-03-141	26-Jun-03	Dewar Drain	50.17443	-97.04802	3	29	062I03
W-03-142	26-Jun-03	Parks Creek	50.04783	-97.06845	4	28	062I03
W-03-143	2-Jul-03	Dubas Creek	50.07688	-96.73875	3	11	062I02
W-03-144	2-Jul-03	Devils Creek	50.07655	-96.66442	3	13	062I02
W-03-145	2-Jul-03	Unnamed tributary to Devils Creek	50.07662	-96.62913	1	13	062I02
W-03-146	2-Jul-03	Bears Creek	50.06143	-96.38153	3	10	062I01
W-03-147	3-Jul-03	Unnamed tributary to Brokenhead River	49.99283	-96.49843	3	10	062H16
W-03-148	3-Jul-03	Unnamed tributary to Brokenhead River	50.00268	-96.47497	3	10	062I01
W-03-149	3-Jul-03	Unnamed tributary to Brokenhead River	49.95810	-96.42943	2	10	062H16
W-03-150	3-Jul-03	Unnamed tributary to Brokenhead River	49.93580	-96.42928	3	10	062H16
W-03-151	3-Jul-03	Coulee St. Onge	49.66265	-96.33307	2	88	062H09

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-03-152	3-Jul-03	Brokenhead River	49.88471	-96.36641	3	10	062H16
W-03-153	3-Jul-03	Hazel Creek	49.87963	-96.23435	3	10	062H16
W-03-154	4-Jul-03	Hazel Creek	49.75037	-96.04343	2	88	062H16
W-03-155	4-Jul-03	Brokenhead River	49.65702	-96.27400	2	88	062H09
W-03-156	4-Jul-03	Medika Drain	49.64913	-95.81577	2	84	052E11
W-03-157	4-Jul-03	Unnamed tributary to Birch River	49.71938	-95.83867	2	84	052E11
W-03-158	4-Jul-03	Medika Drain	49.73857	-95.86142	3	84	052E11
W-03-159	5-Jul-03	Birch River	49.64823	-95.72617	3	84	052E11
W-03-160	5-Jul-03	Boggy River	49.62493	-95.62003	3	84	052E11
W-03-161	5-Jul-03	Birch River	49.55398	-95.65087	3	84	052E11
W-03-162	5-Jul-03	Senchuk Creek	49.60608	-95.66868	2	84	052E11
W-03-163	5-Jul-03	Birch River	49.60775	-95.62298	3	84	052E11
W-03-164	5-Jul-03	Unnamed tributary to Whitemouth River	49.99482	-96.01707	2	83	062H16
W-03-165	5-Jul-03	Unnamed tributary to Whitemouth River	50.03098	-96.03793	2	83	062I01
W-03-166	6-Jul-03	Unnamed tributary to Whitemouth River	50.06575	-96.07145	2	83	062I01
W-03-167	6-Jul-03	Unnamed tributary to Whitemouth River	50.06963	-96.07183	2	83	062I01
W-03-168	6-Jul-03	Unnamed tributary to Whitemouth River	50.09525	-96.04250	2	83	062I01
W-03-169	6-Jul-03	Unnamed tributary to Whitemouth River	50.05565	-96.06010	2	83	062I01
W-03-170	6-Jul-03	Unnamed tributary to Winnipeg River	50.11978	-96.06347	2	96	062I01
W-03-171	6-Jul-03	Unnamed tributary to Winnipeg River	50.14523	-96.03320	2	96	062I01
W-03-172	6-Jul-03	Unnamed tributary to Winnipeg River	50.16437	-96.07950	2	96	062I01
W-03-173	6-Jul-03	Unnamed tributary to Winnipeg River	50.17850	-96.08550	2	96	062I01
W-03-174	6-Jul-03	Unnamed tributary to Winnipeg River	50.21448	-96.08528	3	96	062I01
W-03-175	6-Jul-03	Unnamed tributary to Winnipeg River	50.22428	-96.07637	2	96	062I01
W-03-176	7-Jul-03	Sprague Drain	49.02195	-95.56083	3	87	052E03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-03-177	8-Jul-03	Unnamed tributary to LaSalle River	49.78353	-97.61858	2	23	062H13
W-03-178	8-Jul-03	Cekanauskas Creek	49.78345	-97.63843	2	23	062H13
W-03-179	8-Jul-03	Starbuck Drain	49.78335	-97.66022	2	23	062H13
W-03-180	8-Jul-03	La Salle River	49.78335	-97.66657	5	23	062H13
W-03-181	8-Jul-03	Meakin Creek	49.78330	-97.72117	3	23	062H13
W-03-182	8-Jul-03	Meakin Creek	49.76052	-97.66407	4	23	062H13
W-03-183	8-Jul-03	Bryson Drain	49.71978	-97.89165	3	23	062H12
W-03-184	8-Jul-03	Menard Drain	49.72412	-97.77803	3	23	062H12
W-03-185	8-Jul-03	Codner Drain	49.75937	-97.64822	3	23	062H13
W-03-186	9-Jul-03	Unnamed tributary to Assiniboine River	49.85423	-97.47385	3	23	062H14
W-03-187	9-Jul-03	Barickman Coulee	49.93102	-97.68852	3	23	062H13
W-03-188	9-Jul-03	La Salle River	49.87533	-97.75528	5	24	062H13
W-03-189	9-Jul-03	Scott Coulee	49.83488	-97.77790	4	24	062H13
W-03-190	16-Jul-03	Piney West Drain	49.08958	-96.00192	3	87	062H01
W-03-191	16-Jul-03	Pine Creek Diversion	49.02165	-95.97882	3	87	052E03
W-03-192	16-Jul-03	Unnamed tributary to Pine Creek	49.07487	-95.95663	2	87	052E03
W-03-193	16-Jul-03	Unnamed tributary to West Pine Creek	49.10433	-95.95682	2	87	052E03
W-03-194	16-Jul-03	West Pine Creek	49.08950	-95.94213	3	87	052E03
W-03-195	16-Jul-03	East Pine Creek	49.08955	-95.93167	2	87	052E03
W-03-196	17-Jul-03	Unnamed tributary to Sprague Creek	49.04523	-95.75497	2	87	052E03
W-03-197	17-Jul-03	Sprague Creek	49.02337	-95.63603	4	87	052E03
W-03-198	17-Jul-03	Mud Creek	49.02333	-95.62797	3	87	052E03
W-03-199	17-Jul-03	Unnamed tributary to Sprague Creek	49.08948	-95.66555	2	87	052E03
W-03-200	17-Jul-03	Unnamed tributary to St. Labre Bog	49.31128	-96.07884	2	85	062H08
W-03-201	17-Jul-03	Unnamed tributary to St. Labre Bog	49.31135	-96.04650	2	85	062H08

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W-03-202	18-Jul-03	Unnamed tributary to St. Labre Bog	49.31130	-95.99955	2	85	052E04
W-03-203	18-Jul-03	Unnamed tributary to St. Labre Bog	49.31125	-95.94520	2	85	052E04
W-03-204	18-Jul-03	Unnamed tributary to St. Labre Bog	49.31125	-95.92918	3	85	052E04
W-03-205	18-Jul-03	Unnamed tributary to St. Labre Bog	49.29871	-95.82512	3	85	052E04
W-03-206	31-Jul-03	Cooks Creek	49.80893	-96.63828	3	11	062H15
W-03-207	31-Jul-03	Edie Creek	49.84817	-96.63785	3	11	062H15
W-03-208	31-Jul-03	Hazelridge Drain	49.94370	-96.63645	3	11	062H15
W-03-209	31-Jul-03	Hazelridge Drain	49.95120	-96.70496	3	11	062H15
W-03-210	31-Jul-03	Edie Creek	49.88548	-96.71787	3	11	062H15
W-03-211	31-Jul-03	Swede Drain	49.95925	-96.76455	3	11	062H15
W-03-212	1-Aug-03	Melrose Drain	50.04788	-96.79610	3	11	062I02
W-03-213	1-Aug-03	Sapton Drain	50.01790	-96.70510	3	11	062I02
W-03-214	1-Aug-03	Satans Creek	50.01810	-96.73940	3	11	062I02
W-03-215	1-Aug-03	Cooks Creek	50.01820	-96.77187	4	11	062I02
W-03-216	1-Aug-03	Cooks Creek Diversion	49.90003	-96.77417	4	11	062H15
W-03-217	1-Aug-03	South Bibeau Drain	49.85623	-96.84383	2	9	062H15
W-03-218	1-Aug-03	Prairie Centre Line Drain	49.84137	-96.86688	3	9	062H15
W-03-219	1-Aug-03	Prairie Grove Drain	49.79690	-96.84412	3	9	062H15
W-03-220	5-Aug-03	Unnamed tributary to Icelandic River	50.90545	-97.08787	2	32	062I14
W-03-221	5-Aug-03	Unnamed tributary to Icelandic River	50.90505	-97.15793	2	32	062I14
W-03-222	5-Aug-03	Bluegoose Drain	50.90213	-97.13458	3	32	062I14
W-03-223	5-Aug-03	Silver Drain	50.89027	-97.22798	3	32	062I14
W-03-224	5-Aug-03	Unnamed tributary to Icelandic River	50.90252	-97.20465	2	32	062I14
W-03-225	5-Aug-03	Framnes Drain	50.92038	-97.29783	3	32	062I14
W-03-226	5-Aug-03	Vidir Road Drain	50.97922	-97.29643	3	32	062I14

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W-03-227	5-Aug-03	Icelandic River	50.97950	-97.31817	4	32	062I14
W-03-228	6-Aug-03	Unnamed tributary to Icelandic River	50.99377	-97.01482	2	32	062I14
W-03-229	6-Aug-03	Unnamed tributary to Icelandic River	51.02325	-96.99122	3	32	062P02
W-03-230	6-Aug-03	Unnamed tributary to North Crooked Lake Drain	50.99360	-97.20338	2	32	062I14
W-03-231	6-Aug-03	North Crooked Lake Drain	50.97890	-97.17972	3	32	062I14
W-03-232	6-Aug-03	South Crooked Lake Drain	50.94928	-97.17953	3	32	062I14
W-03-233	6-Aug-03	North Crooked Lake Drain	50.96437	-97.09773	3	32	062I14
W-03-234	6-Aug-03	South Crooked Lake Drain	50.95537	-97.10913	4	32	062I14
W-03-235	6-Aug-03	Icelandic River	50.89007	-97.46315	3	32	062I14
W-03-236	6-Aug-03	Icelandic River	50.94952	-97.48172	4	32	062I14
W-03-237	6-Aug-03	Icelandic River	50.99407	-97.41122	4	32	062I14
W-03-238	7-Aug-03	Icelandic River	50.96452	-97.03750	5	32	062I14
W-03-239	7-Aug-03	Rembrandt Drain	50.89383	-97.29762	4	32	062I14
W-03-240	7-Aug-03	Icelandic River	50.97785	-97.46280	4	32	062I14
W-03-241	7-Aug-03	Hodgson Road Drain	51.23405	-97.03838	3	106	062P03
W-03-242	7-Aug-03	Unnamed tributary to Washow Bay Creek	51.16348	-97.03835	3	106	062P03
W-03-243	7-Aug-03	Washow Bay Creek	51.17887	-97.01270	4	106	062P03
W-03-244	7-Aug-03	Progress Drain	51.05295	-96.99153	3	106	062P02
W-03-245	7-Aug-03	Shorncliff Drain	51.08250	-97.13195	2	106	062P03
W-03-246	8-Aug-03	Petrachek Drain	51.09723	-97.13207	3	106	062P03
W-03-247	8-Aug-03	Sugar Creek	51.24375	-97.01052	3	106	062P03
W-03-248	8-Aug-03	Angle Drain	51.18622	-97.03858	3	106	062P03
W-03-249	11-Aug-03	Main Drain No. 2	50.47717	-96.23478	3	14	062I08
W-03-250	11-Aug-03	Gusta Drain	50.45945	-96.28337	3	14	062I08
W-03-251	11-Aug-03	Main Drain No. 1	50.42990	-96.32980	4	14	062I08

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W-03-252	11-Aug-03	Hiebert Drain	50.41512	-96.28357	3	14	062I08
W-03-253	11-Aug-03	Stead Drain	50.40292	-96.44565	3	14	062I08
W-03-254	11-Aug-03	Goertz Drain	50.35584	-96.37584	2	14	062I08
W-03-255	12-Aug-03	Catfish Creek	50.61822	-96.37417	4	14	062I09
W-03-256	12-Aug-03	Unnamed tributary to Main Drain No. 1	50.35615	-96.28303	3	14	062I08
W-03-257	12-Aug-03	Main Drain No. 1	50.37103	-96.35348	4	14	062I08
W-03-258	12-Aug-03	Cloverdale Road Drain	50.18078	-96.90955	3	29	062I02
W-03-259	12-Aug-03	Muckle Creek	50.24047	-96.92042	2	29	062I02
W-03-260	12-Aug-03	Medicine Creek	50.24047	-96.95412	2	29	062I02
W-03-261	12-Aug-03	Long Lake Drain	50.19593	-97.00739	3	29	062I03
W-03-262	12-Aug-03	Dewar Drain	50.17442	-97.04823	3	29	062I03
W-03-263	12-Aug-03	Wavey Creek	50.13780	-97.23012	4	29	062I03
W-03-264	12-Aug-03	Jackfish Creek	50.21010	-97.25310	3	29	062I03
W-03-265	12-Aug-03	Janet Creek	50.18815	-97.25308	3	29	062I03
W-03-266	13-Aug-03	Unnamed tributary to Steele Drain	50.16115	-97.20035	1	29	062I03
W-03-267	13-Aug-03	Steele Drain	50.16515	-97.20253	3	29	062I03
B-04-001	1-May-04	Gordon Drain	50.01959	-97.34406	2	26	062I03
B-04-002	1-May-04	East Colony Creek	49.99025	-97.29995	3	26	062H14
B-04-003	1-May-04	Grassmere Creek Drain	50.04464	-97.32130	5	27	062I03
B-04-004	1-May-04	Grassmere Creek Drain East Branch	50.12028	-97.36718	4	27	062I03
B-04-005	1-May-04	Grassmere Creek Drain	50.07885	-97.39043	4	27	062I03
B-04-006	1-May-04	Grassmere Creek Drain	50.04930	-97.36032	4	27	062I03
B-04-007	1-May-04	City Protection Drain	50.00484	-97.15317	3	27	062I03
B-04-008	1-May-04	Rat Creek	49.95231	-98.51443	5	35	062G15
B-04-009	2-May-04	Unnamed tributary to Gopher Creek	50.26973	-98.96138	2	42	062J07

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B-04-010	2-May-04	Gopher Creek	50.26950	-98.93833	4	42	062J07
B-04-011	2-May-04	Pembroke Drain	50.28488	-98.88030	4	42	062J07
B-04-012	2-May-04	Big Grass River	50.50595	-98.97163	5	43	062J10
B-04-013	2-May-04	Big Grass River	50.52065	-98.99210	5	43	062J10
B-04-014	2-May-04	Big Grass River	50.53693	-99.01457	5	43	062J11
B-04-015	2-May-04	Big Grass River	50.55338	-99.02868	5	43	062J11
B-04-016	2-May-04	Big Grass River	50.56025	-99.04787	5	43	062J11
B-04-017	2-May-04	Rat Creek	49.94523	-98.52475	5	35	062G15
B-04-018	3-May-04	King Drain	49.63542	-97.38850	4	20	062H11
B-04-019	3-May-04	King Drain	49.62836	-97.41303	4	20	062H11
B-04-020	3-May-04	Bamland Drain	49.64019	-97.43578	3	20	062H11
B-04-021	3-May-04	Grill Drain	49.62039	-97.43536	3	20	062H11
B-04-022	3-May-04	Manness Drain	49.62139	-97.37622	3	20	062H11
B-04-023	4-May-04	Anderson Creek	49.36964	-97.41400	3	17	062H06
B-04-024	4-May-04	Bell Drain	49.38442	-97.41397	2	17	062H06
B-04-025	4-May-04	Russell Drain	49.42767	-97.43667	2	17	062H06
B-04-026	4-May-04	Little Morris River	49.45825	-97.49894	5	17	062H06
B-04-027	4-May-04	Morris River	49.38431	-97.39056	6	17	062H06
B-04-028	4-May-04	Recently constructed overflow channel	49.42858	-97.44503	6	17	062H06
B-04-029	4-May-04	Recently constructed overflow channel	49.43689	-97.44614	6	17	062H06
B-04-030	4-May-04	Tobacco Creek	49.42639	-97.52575	5	17	062H05
B-04-031	6-May-04	Little Souris River	49.76141	-99.93884	4	98	062G13
B-04-032	6-May-04	Black Creek	49.60428	-99.73433	4	69	062G12
B-04-033	6-May-04	Unnamed tributary to Souris River	49.44781	-99.81103	3	69	062G05
B-04-034	6-May-04	Unnamed tributary to Souris River	49.39978	-99.90131	3	69	062G05

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B-04-035	6-May-04	Unnamed tributary to Souris River	49.45785	-99.95003	2	69	062G05
B-04-036	6-May-04	Orthez Drain	49.33333	-100.01433	3	59	062F08
B-04-037	6-May-04	Orthez Drain	49.41464	-99.72844	3	59	062G05
B-04-038	6-May-04	Unnamed tributary to Overend Lake	49.38475	-99.67869	3	59	062G05
B-04-039	6-May-04	Pembina River Diversion	49.26681	-99.47092	5	59	062G06
B-04-040	7-May-04	Unnamed tributary to Cypress River	49.55072	-99.12075	2	71	062G11
B-04-041	7-May-04	Unnamed tributary to Cypress River	49.56208	-99.08589	2	71	062G11
B-04-042	7-May-04	Oxtail Creek	49.54669	-99.04222	2	71	062G11
B-04-043	7-May-04	Tiger Creek Drain	49.56083	-99.02922	3	71	062G11
B-04-044	7-May-04	Rex Creek	49.62039	-98.96044	4	71	062G10
B-04-045	7-May-04	Cypress River	49.66719	-98.93761	5	71	062G10
B-04-046	10-May-04	Unnamed tributary to Cypress River	49.65669	-98.89281	3	71	062G10
B-04-047	10-May-04	Cypress River	49.59131	-99.03333	4	71	062G11
B-04-048	10-May-04	Cypress River	49.45797	-99.02133	4	71	062G06
B-04-049	13-May-04	Unnamed tributary to Birdtail Creek	50.36822	-101.08458	2	77	062K06
B-04-050	13-May-04	Unnamed tributary to Birdtail Creek	50.41850	-101.08397	3	77	062K06
B-04-051	13-May-04	Unnamed tributary to Birdtail Creek	50.42206	-101.06769	2	77	062K06
B-04-052	13-May-04	Unnamed tributary to Birdtail Creek	50.49128	-100.93792	2	77	062K07
B-04-053	13-May-04	Birdtail Creek	50.48450	-100.96356	4	77	062K07
B-04-054	13-May-04	Unnamed tributary to Birdtail Creek	50.53549	-100.95647	2	77	062K10
B-04-055	13-May-04	Birdtail Creek	50.57903	-100.92614	4	77	062K10
B-04-056	13-May-04	Unnamed tributary to Birdtail Creek	50.63061	-100.85714	2	77	062K10
B-04-057	14-May-04	Konyk Creek	50.84506	-100.91611	3	76	062K15
B-04-058	14-May-04	Konyk Creek	50.81608	-100.88068	3	76	062K15
B-04-059	14-May-04	Tilson Creek	50.83147	-100.84547	3	76	062K15

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-04-060	14-May-04	Tilson Creek	50.82130	-100.83412	3	76	062K15
B-04-061	14-May-04	Unnamed tributary to Birdtail Creek	50.78614	-100.76336	2	76	062K15
B-04-062	14-May-04	Unnamed tributary to Birdtail Creek	50.81995	-100.74431	2	76	062K15
B-04-063	14-May-04	Unnamed tributary to Birdtail Creek	50.83314	-100.69486	2	76	062K15
B-04-064	14-May-04	Birdtail Creek	50.82543	-100.74126	4	76	062K15
B-04-065	17-May-04	Potts Drain	50.47658	-98.93872	2	43	062J07
B-04-066	17-May-04	Jumping Deer Creek	50.43236	-98.91561	3	43	062J07
B-04-067	17-May-04	Lach Drain	50.41761	-98.93867	3	42	062J07
B-04-068	17-May-04	Whitemud River Cross Ditch	50.24064	-98.90497	6	42	062J02
B-04-069	18-May-04	North Snake Creek	50.44125	-99.46964	3	43	062J06
B-04-070	18-May-04	Pelican Creek	50.49157	-99.45405	3	43	062J06
B-04-071	18-May-04	Badnel Drain	51.17328	-99.50061	3	45	062O04
B-04-072	18-May-04	Big Grass River	50.54272	-99.14681	5	43	062J11
B-04-073	19-May-04	Edwards Creek	51.12417	-100.03931	4	47	062N01
B-04-074	19-May-04	Edwards Creek	51.11133	-100.06217	4	47	062N01
B-04-075	20-May-04	Valley River	51.26978	-100.02300	5	95	062N08
B-04-076	20-May-04	Unnamed tributary to Dauphin Lake	51.41964	-99.97544	2	95	062O05
B-04-077	20-May-04	Unnamed tributary to Dauphin Lake	51.39355	-99.99433	2	95	062O05
B-04-078	20-May-04	Mowatt Creek	51.36878	-99.99514	3	95	062O05
B-04-079	20-May-04	Unnamed tributary to Dauphin Lake	51.37428	-99.97167	2	95	062O05
B-04-080	20-May-04	Unnamed tributary to Dauphin Lake	51.34694	-99.94836	2	95	062O05
B-04-081	20-May-04	Unnamed tributary to Dauphin Lake	51.33236	-99.94450	2	95	062O05
B-04-082	20-May-04	Unnamed tributary to Dauphin Lake	51.31769	-99.94853	2	95	062O05
B-04-083	20-May-04	Unnamed tributary to Dauphin Lake	51.28789	-99.89969	2	95	062O05
B-04-084	20-May-04	Unnamed tributary to Dauphin Lake	51.27311	-99.89958	2	95	062O05

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B-04-085	20-May-04	Unnamed tributary to Dauphin Lake	51.25833	-99.89958	2	95	062O05
B-04-086	21-May-04	Salt Creek	51.14769	-100.13353	3	47	062N01
B-04-087	22-May-04	North Snake Creek	50.44125	-99.46964	3	43	062J06
B-04-088	25-May-04	Unnamed tributary to Assiniboine River	49.85728	-99.86858	2	98	062G13
B-04-089	25-May-04	Unnamed tributary to Assiniboine River	49.89497	-100.30139	3	98	062F16
B-04-090	25-May-04	Unnamed tributary to Assiniboine River	49.85133	-100.37125	3	98	062F16
B-04-091	25-May-04	Unnamed tributary to Assiniboine River	49.84242	-100.42264	3	98	062F16
B-04-092	25-May-04	Oak River	50.01939	-100.40935	5	72	062K01
B-04-093	31-May-04	Unnamed tributary to Little Saskatchewan River	49.90142	-100.08114	3	82	062F16
B-04-094	31-May-04	Sibbald Creek	49.90128	-100.32069	3	82	062F16
B-04-095	31-May-04	Oak River	50.01955	-100.40945	5	72	062K01
B-04-096	1-Jun-04	Stony Creek	49.57702	-101.25330	3	63	062F11
B-04-097	1-Jun-04	Stony Creek	49.44408	-101.18907	3	63	062F06
B-04-098	1-Jun-04	Unnamed tributary to Stony Creek	49.42897	-100.90143	3	63	062F07
B-04-099	1-Jun-04	Stony Creek	49.48790	-100.85328	4	63	062F07
B-04-100	1-Jun-04	Dooley Coulee	49.34052	-100.63583	2	67	062F07
B-04-101	1-Jun-04	Chain Lakes Creek	49.35897	-100.60160	3	67	062F07
B-04-102	1-Jun-04	Jackson Creek	49.30989	-100.98614	3	64	062F07
B-04-103	1-Jun-04	Graham Creek	49.25908	-101.03089	3	64	062F06
B-04-104	1-Jun-04	Jackson Creek	49.36597	-101.25683	2	64	062F06
B-04-105	1-Jun-04	Graham Creek	49.26667	-101.16964	3	64	062F06
B-04-106	2-Jun-04	Unnamed tributary to Souris River	49.06566	-100.64541	4	65	062F02
B-04-107	2-Jun-04	Unnamed tributary to Souris River	49.02386	-100.64528	3	65	062F02
B-04-108	2-Jun-04	Unnamed tributary to Souris River	49.01431	-100.64050	3	65	062F02
B-04-109	2-Jun-04	Waskada Creek	49.11769	-100.95044	3	65	062F02

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B-04-110	2-Jun-04	Waskada Creek	49.09069	-100.91425	3	65	062F02
B-04-111	2-Jun-04	Blind River	49.22203	-100.99499	3	65	062F02
B-04-112	2-Jun-04	Blind River	49.26656	-100.97294	4	65	062F07
B-04-113	2-Jun-04	Antler River	49.02914	-101.14039	5	65	062F03
B-04-114	3-Jun-04	North Pembina River	49.17761	-100.02306	3	57	062F01
B-04-115	3-Jun-04	Pembina River	49.20250	-99.78858	5	57	062G04
B-04-116	3-Jun-04	Starke Creek	49.13284	-99.88392	3	57	062G04
B-04-117	4-Jun-04	Cypress River	49.47411	-98.79583	4	71	062G07
B-04-118	4-Jun-04	Cypress River	49.49986	-98.68139	3	71	062G07
B-04-119	4-Jun-04	Somerset Creek	49.45869	-98.74119	3	71	062G07
B-04-120	4-Jun-04	Cypress River	49.44336	-98.93125	4	71	062G07
B-04-121	4-Jun-04	Cypress River	49.43286	-98.95306	4	71	062G07
B-04-122	4-Jun-04	Oak Creek	49.54978	-99.46225	4	70	062G11
B-04-123	7-Jun-04	Oak Creek	49.62094	-99.57575	4	69	062G12
B-04-124	7-Jun-04	Spring Brook	49.59219	-99.59825	4	70	062G12
B-04-125	7-Jun-04	Oak Creek	49.56197	-99.51256	4	70	062G12
B-04-126	8-Jun-04	Unnamed tributary to Oak Creek	49.52356	-99.42769	3	70	062G11
B-04-127	8-Jun-04	Unnamed tributary to Oak Creek	49.51781	-99.39553	3	70	062G11
B-04-128	8-Jun-04	Oak Creek	49.47356	-99.15081	4	70	062G06
B-04-129	8-Jun-04	Oak Creek	49.42917	-99.13919	4	70	062G06
B-04-130	9-Jun-04	Unnamed tributary to Souris River	49.53289	-100.16117	3	68	062F09
B-04-131	9-Jun-04	Unnamed tributary to Souris River	49.59153	-100.22000	2	68	062F09
B-04-132	9-Jun-04	Unnamed tributary to Souris River	49.59144	-100.22558	2	68	062F09
B-04-133	9-Jun-04	Elgin Creek	49.53289	-100.27322	4	68	062F09
B-04-134	9-Jun-04	Unnamed tributary to Elgin Creek	49.53281	-100.31153	3	68	062F09

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B-04-135	9-Jun-04	Elgin Creek	49.39964	-100.20364	3	68	062F08
B-04-136	10-Jun-04	Pipestone Creek	49.83964	-101.39572	5	62	062F14
B-04-137	10-Jun-04	Unnamed tributary to Assiniboine River	49.79833	-100.75761	3	98	062F15
B-04-138	10-Jun-04	Flat Creek	49.76961	-100.58717	2	98	062F15
B-04-139	10-Jun-04	Unnamed tributary to Assiniboine River	49.85736	-100.18289	2	98	062F16
B-04-140	14-Jun-04	Unnamed tributary to Deadhorse Creek	49.18411	-98.22750	3	15	062G01
B-04-141	14-Jun-04	Unnamed tributary to Deadhorse Creek	49.13908	-98.22311	2	15	062G01
B-04-142	14-Jun-04	Hespeler Drain	49.12108	-98.02078	2	15	062G01
B-04-143	14-Jun-04	Unnamed tributary to Hespeler Drain	49.11217	-98.02067	3	15	062G01
B-04-144	15-Jun-04	Crystal Creek	49.17231	-98.98747	4	56	062G02
B-04-145	15-Jun-04	Unnamed tributary to Cypress Creek	49.14792	-99.09025	4	56	062G03
B-04-146	15-Jun-04	Unnamed tributary to Cypress Creek	49.11825	-99.09492	4	56	062G03
B-04-147	15-Jun-04	Unnamed tributary to Cypress Creek	49.13313	-99.11740	3	56	062G03
B-04-148	15-Jun-04	Unnamed tributary to Cypress Creek	49.08853	-99.03778	3	56	062G03
B-04-149	15-Jun-04	Cypress Creek	49.13172	-99.03250	5	56	062G03
B-04-150	16-Jun-04	Cypress Creek	49.05917	-98.97247	4	56	062G02
B-04-151	16-Jun-04	Unnamed tributary to Cypress Creek	49.05912	-98.99333	4	56	062G02
B-04-152	16-Jun-04	Cypress Creek	49.04403	-98.96386	4	56	062G02
B-04-153	16-Jun-04	Cypress Creek	49.19958	-99.08619	5	56	062G03
B-04-154	16-Jun-04	Crystal Creek	49.10331	-98.90700	3	56	062G02
B-04-155	16-Jun-04	Crystal Creek	49.12486	-98.94239	4	56	062G02
B-04-156	17-Jun-04	Crystal Creek	49.14325	-98.95742	4	56	062G02
B-04-157	17-Jun-04	Unnamed tributary to Rock Lake	49.16269	-99.18836	3	56	062G03
B-04-158	17-Jun-04	Unnamed tributary to Pembina River	49.25189	-99.28253	3	56	062G06
B-04-159	18-Jun-04	Unnamed tributary to Pipestone Creek	49.70303	-100.82672	4	62	062F10

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B-04-160	18-Jun-04	Pipestone Creek Diversion	49.68078	-100.87214	5	62	062F10
B-04-161	18-Jun-04	Pipestone Creek	49.65081	-100.91444	5	62	062F10
B-04-162	18-Jun-04	Unnamed tributary to Pipestone Creek	49.60875	-101.00856	5	62	062F11
B-04-163	21-Jun-04	Plum Creek	49.62578	-100.30342	5	62	062F09
B-04-164	21-Jun-04	Chain Lakes Creek	49.44392	-100.55811	4	67	062F07
B-04-165	21-Jun-04	Chain Lakes Creek	49.35911	-100.60161	3	67	062F07
B-04-166	21-Jun-04	Medora Creek	49.26161	-100.69153	4	66	062F07
B-04-167	21-Jun-04	Medora Creek	49.33446	-100.82761	4	66	062F07
B-04-168	22-Jun-04	Medora Creek	49.34050	-100.74631	4	66	062F07
B-04-169	22-Jun-04	Medora Creek	49.28794	-100.71458	4	66	062F07
B-04-170	22-Jun-04	Unnamed tributary to Medora Creek	49.23725	-100.70172	3	66	062F02
B-04-171	22-Jun-04	Medora Creek	49.23736	-100.60933	4	66	062F02
B-04-172	22-Jun-04	Unnamed tributary to Gainsborough Creek	49.14808	-101.09311	2	65	062F03
B-04-173	22-Jun-04	Unnamed tributary to Gainsborough Creek	49.12025	-101.13817	3	65	062F03
B-04-174	22-Jun-04	Gainsborough Creek	49.08878	-101.20569	4	65	062F03
B-04-175	22-Jun-04	Gainsborough Creek	49.08892	-101.29514	4	65	062F03
B-04-176	23-Jun-04	Antler River	49.04664	-101.07128	5	65	062F03
B-04-177	23-Jun-04	Unnamed tributary to Antler River	49.04439	-101.18300	3	65	062F03
B-04-178	23-Jun-04	Antler River	49.00114	-101.31706	5	65	062F03
B-04-179	23-Jun-04	Blind River	49.17772	-100.96431	3	65	062F02
B-04-180	23-Jun-04	Unnamed tributary to Blind River	49.24226	-100.94073	2	65	062F02
B-04-181	28-Jun-04	Edwards Creek	51.05178	-100.07683	4	47	062N01
B-04-182	28-Jun-04	Spruce Creek	51.09589	-100.18019	4	47	062N01
B-04-183	28-Jun-04	Unnamed tributary to Vermillion River	51.08458	-100.18022	1	47	062N01
B-04-184	28-Jun-04	Keld Drain	51.03692	-100.20361	3	47	062N01

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B-04-185	28-Jun-04	Buck Creek	50.97667	-100.27403	3	47	062K16
B-04-186	29-Jun-04	Vermillion River	51.01850	-100.16978	4	47	062N01
B-04-187	29-Jun-04	Vermillion River	51.14025	-100.07489	5	47	062N01
B-04-188	29-Jun-04	Vermillion River	51.06189	-100.13847	5	47	062N01
B-04-189	30-Jun-04	Wilson River	51.19956	-100.10461	5	48	062N01
B-04-190	30-Jun-04	Mineral Creek	51.15350	-100.29794	4	48	062N01
B-04-191	5-Jul-04	Wilson River	51.16903	-100.24864	5	48	062N01
B-04-192	5-Jul-04	Unnamed tributary to Wilson River	51.16544	-100.25078	2	48	062N01
B-04-193	5-Jul-04	Unnamed tributary to Wilson River	51.19644	-100.18053	2	48	062N01
B-04-194	6-Jul-04	Unnamed tributary to Roaring River	52.04491	-101.20383	1	52	063C03
B-04-195	6-Jul-04	Unnamed tributary to Minitonas Creek	51.99772	-101.19172	3	52	062N14
B-04-196	6-Jul-04	Minitonas Creek	52.01869	-101.18006	4	52	063C03
B-04-197	6-Jul-04	Minitonas Creek	51.99495	-101.10864	3	52	062N14
B-04-198	6-Jul-04	West Favel River	51.99749	-101.05861	3	52	062N14
B-04-199	6-Jul-04	East Favel River	52.02703	-101.02784	3	52	063C03
B-04-200	6-Jul-04	Godin Drain	52.00844	-100.96553	3	52	063C02
B-04-201	6-Jul-04	Unnamed tributary to Old Government Drain	52.04317	-101.01325	2	52	063C03
B-04-202	6-Jul-04	Unnamed tributary to West Favel River	52.10511	-101.08489	2	52	063C03
B-04-203	7-Jul-04	Unnamed tributary to East Favel River	52.12361	-101.03714	2	52	063C03
B-04-204	7-Jul-04	Unnamed tributary to East Favel River	52.17269	-101.00875	3	52	063C03
B-04-205	7-Jul-04	Old Government Drain	52.06978	-101.01336	3	52	063C03
B-04-206	7-Jul-04	Tamarack Creek	52.09878	-101.22778	2	61	063C03
B-04-207	7-Jul-04	Silent Creek	52.02703	-101.30961	2	61	063C03
B-04-208	7-Jul-04	Unnamed tributary to Hay Creek	51.96856	-101.39678	2	61	062N14
B-04-209	7-Jul-04	Hay Creek	51.96858	-101.42317	2	61	062N14

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B-04-210	7-Jul-04	Unnamed tributary to Lobstick Creek	52.02586	-101.44215	2	61	063C03
B-04-211	7-Jul-04	Hay Creek	52.03739	-101.39447	3	61	063C03
B-04-212	7-Jul-04	Thunderhill Creek	52.02036	-101.51369	3	61	063C04
B-04-213	7-Jul-04	Unnamed tributary to Thunderhill Creek	52.02347	-101.53764	2	61	063C04
B-04-214	7-Jul-04	Prairie Creek	51.83717	-101.53422	4	61	062N13
B-04-215	7-Jul-04	Lobstick Creek	51.96798	-101.43967	4	61	062N14
B-04-216	7-Jul-04	Thomas Creek	51.94547	-101.41194	2	61	062N14
B-04-217	8-Jul-04	Bowsman River	52.27122	-101.39483	4	89	063C06
B-04-218	8-Jul-04	Hubbell Creek	52.25994	-101.46400	3	89	063C06
B-04-219	8-Jul-04	Hubbell Creek	52.21544	-101.44208	3	89	063C03
B-04-220	8-Jul-04	Little Kemulch Creek	52.28898	-101.19812	3	89	063C06
B-04-221	8-Jul-04	Unnamed tributary to Little Kemulch Creek	52.28917	-101.20694	3	89	063C06
B-04-222	8-Jul-04	Little Kemulch Creek	52.29083	-101.19819	3	89	063C06
B-04-223	9-Jul-04	Mineral Creek	51.15353	-100.29739	4	48	062N01
B-04-224	13-Jul-04	Kemulch Creek	52.32444	-101.21064	3	89	063C06
B-04-225	13-Jul-04	Camp Nine Drain	52.25467	-101.20008	4	89	063C06
B-04-226	13-Jul-04	Whitebeech Creek	52.12278	-101.41819	4	89	063C03
B-04-227	13-Jul-04	McVey Creek	52.15936	-101.56128	3	89	063C04
B-04-228	13-Jul-04	Trout Creek	52.23089	-101.53297	2	89	063C04
B-04-229	14-Jul-04	Swinowski Drain	52.15217	-100.96556	4	53	063C02
B-04-230	14-Jul-04	Cox Drain	52.11452	-100.89386	3	53	063C02
B-04-231	14-Jul-04	Cox Drain	52.08519	-100.89439	3	53	063C02
B-04-232	14-Jul-04	Jarosz Drain	52.11444	-100.84633	4	53	063C02
B-04-233	14-Jul-04	Unnamed tributary to Jarosz Drain	52.10924	-100.84645	3	53	063C02
B-04-234	14-Jul-04	Jarosz Drain	52.09974	-100.83506	3	53	063C02

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-04-235	14-Jul-04	Renwer Drain	52.10233	-100.79867	3	53	063C02
B-04-236	14-Jul-04	Unnamed tributary to Sinclair River	52.17253	-100.91789	2	53	063C02
B-04-237	14-Jul-04	Unnamed tributary to Sinclair River	52.20192	-100.97487	3	53	063C02
B-04-238	14-Jul-04	Lalecheur Drain	52.25989	-100.92244	4	53	063C07
B-04-239	15-Jul-04	West Ruby Creek	51.85978	-101.43569	3	51	062N14
B-04-240	15-Jul-04	Silver Creek	51.23142	-100.81292	3	93	062N02
B-04-241	19-Jul-04	Silver Creek	51.25811	-100.85411	3	93	062N07
B-04-242	19-Jul-04	Dry Creek	51.21467	-100.62542	4	93	062N02
B-04-243	19-Jul-04	Unnamed tributary to Valley River	51.15511	-100.73631	3	93	062N02
B-04-244	20-Jul-04	Vermillion River	51.16975	-100.05375	5	47	062N01
B-04-245	20-Jul-04	Hamlin Creek	51.44911	-99.51717	4	107	062O05
B-04-246	20-Jul-04	Rorketon Drain	51.44911	-99.55103	3	107	062O05
B-04-247	20-Jul-04	Bretecher Drain	51.44914	-99.52744	2	107	062O05
B-04-248	20-Jul-04	Defaults Creek	51.47819	-99.51722	4	107	062O05
B-04-249	20-Jul-04	Rorketon Drain	51.48672	-99.55100	3	107	062O05
B-04-250	20-Jul-04	Szewczuks Creek	51.47828	-99.72250	4	107	062O05
B-04-251	21-Jul-04	Bretecher Drain	51.46378	-99.52933	2	107	062O05
B-04-252	21-Jul-04	Unnamed tributary to Rorketon Drain	51.47825	-99.60947	3	107	062O05
B-04-253	21-Jul-04	Unnamed tributary to Szewczuks Creek	51.44914	-99.75025	2	107	062O05
B-04-254	21-Jul-04	Unnamed tributary to Lake Winnipegosis	51.44919	-99.77336	2	107	062O05
B-04-255	21-Jul-04	German Creek	51.55278	-99.80847	3	107	062O12
B-04-256	21-Jul-04	Szewczuks Creek	51.56550	-99.71881	4	107	062O12
B-04-257	21-Jul-04	Lonely Lake Drain	51.12569	-99.05358	3	113	062O03
B-04-258	21-Jul-04	Unnamed tributary to Lonely Lake	51.11109	-99.07079	2	113	062O03
B-04-259	21-Jul-04	Unnamed tributary to Lonely Lake	51.11111	-99.09664	2	113	062O03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
B-04-260	21-Jul-04	Unnamed tributary to Lonely Lake	51.16369	-99.14939	3	113	062O03
B-04-261	21-Jul-04	Crane River	51.39089	-99.27936	2	113	062O06
B-04-262	21-Jul-04	Crane River	51.50286	-99.26383	3	113	062O11
B-04-263	22-Jul-04	Arrow River	50.24061	-100.78728	4	74	062K02
B-04-264	22-Jul-04	Arrow River	50.22583	-100.77814	4	74	062K02
B-04-265	22-Jul-04	Arrow River	50.18158	-100.80558	4	74	062K02
B-04-266	26-Jul-04	Minnewasta Creek	50.25517	-101.02850	4	74	062K06
B-04-267	4-Aug-04	Pasquia River Diversion Dam	53.60809	-101.63661	1	114	063F12
B-04-268	4-Aug-04	Unnamed tributary to Pasquia River	53.61828	-101.61606	2	114	063F12
B-04-269	4-Aug-04	Drain T	53.65383	-101.63703	2	114	063F12
B-04-270	4-Aug-04	Z Drain	53.82206	-101.27581	4	114	063F14
B-04-271	4-Aug-04	Q Drain/Drain R	53.79283	-101.30378	3	114	063F14
B-04-272	4-Aug-04	B - 1 Drain	53.76653	-101.43375	2	114	063F14
B-04-273	5-Aug-04	Road 8B Drain NW	53.74844	-101.40347	2	114	063F11
B-04-274	5-Aug-04	Road 8B Drain SW	53.74867	-101.40381	2	114	063F11
B-04-275	5-Aug-04	B - 1 Drain	53.74872	-101.40331	3	114	063F11
B-04-276	5-Aug-04	Drain P	53.75836	-101.58886	3	114	063F13
B-04-277	5-Aug-04	Confluence of Drain O and Drain L	53.73992	-101.52372	4	114	063F12
B-04-278	5-Aug-04	Drain N	53.72236	-101.52378	2	114	063F12
B-04-279	5-Aug-04	Confluence of Drain 01 and Bon Drain	53.72933	-101.64722	2	114	063F12
B-04-280	5-Aug-04	Pasquia Lake Drain	53.65325	-101.53925	3	114	063F12
B-04-281	6-Aug-04	Unnamed tributary to Carrot River	53.75375	-101.52378	4	114	063F13
B-04-282	6-Aug-04	Road 8 Drain	53.77572	-101.28781	2	114	063F14
B-04-283	6-Aug-04	Drain III	53.74872	-101.33319	2	114	063F11
B-04-284	6-Aug-04	Drain II	53.72294	-101.37650	3	114	063F11

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B-04-285	6-Aug-04	Pasquia River	53.75472	-101.25319	4	114	063F14
B-04-286	6-Aug-04	Pasquia Lake Drain	53.70508	-101.28900	3	114	063F11
B-04-287	6-Aug-04	Pasquia River	53.63911	-101.35728	3	114	063F11
B-04-288	6-Aug-04	Pasquia River	53.59653	-101.48961	3	114	063F11
D-04-001	6-Apr-04	Turtle River	51.05778	-99.52568	5	45	062O04
D-04-002	6-Apr-04	Turtle River	50.90373	-99.50532	5	45	062J13
D-04-003	15-Apr-04	Unnamed tributary to Glenella Drain	50.56492	-99.45598	3	43	062J11
D-04-004	15-Apr-04	Big Grass River	50.50607	-98.97130	5	43	062J10
D-04-005	15-Apr-04	Gork Drain	50.50597	-99.16970	3	43	062J11
D-04-006	16-Apr-04	North Snake Creek	50.44160	-99.47058	3	43	062J06
D-04-007	16-Apr-04	Riding Mountain Drain	50.52088	-99.31588	5	43	062J11
D-04-008	16-Apr-04	Big Grass River	50.52807	-99.19278	5	43	062J11
D-04-009	16-Apr-04	Big Grass River Angle Ditch	50.56480	-99.15730	4	43	062J11
D-04-010	2-Jun-04	Unnamed tributary to Mary Jane Creek	49.26653	-98.59518	2	54	062G07
D-04-011	2-Jun-04	Unnamed tributary to Roseisle Creek	49.45448	-98.47617	2	18	062G08
D-04-012	2-Jun-04	Mary Jane Creek	49.28152	-98.63632	4	54	062G07
D-04-013	3-Jun-04	North Snake Creek Pond Outlet	50.44160	-99.47058	3	43	062J06
D-04-014	3-Jun-04	Turtle River	50.90373	-99.50532	5	45	062J13
D-04-015	7-Jun-04	Hanson Creek	51.08895	-99.47720	3	45	062O03
D-04-016	8-Jun-04	North Snake Creek Pond Outlet	50.44160	-99.47058	3	43	062J06
D-04-017	9-Jun-04	Image Creek	49.92052	-98.75798	3	36	062G15
D-04-018	9-Jun-04	Mink Creek	50.22498	-99.36050	1	39	062J03
D-04-019	9-Jun-04	Whitemud River	50.25915	-99.35390	5	39	062J06
D-04-020	10-Jun-04	North Snake Creek Pond Outlet	50.44160	-99.47058	3	43	062J06
D-04-021	14-Jun-04	North Snake Creek Pond Outlet	50.44160	-99.47058	3	43	062J06

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
D-04-022	15-Jun-04	Mary Jane Creek	49.29135	-98.54482	3	54	062G07
D-04-023	15-Jun-04	Mary Jane Creek	49.23637	-98.67435	4	54	062G02
D-04-024	15-Jun-04	Hammond's Creek	49.28065	-98.81600	2	54	062G07
D-04-025	15-Jun-04	Unnamed tributary to Hammond's Creek	49.28068	-98.75465	1	54	062G07
D-04-026	15-Jun-04	Hammond's Creek	49.27210	-98.74967	3	54	062G07
D-04-027	15-Jun-04	McCoys Creek	49.25808	-98.72620	4	54	062G07
D-04-028	16-Jun-04	Deadhorse Creek	49.19037	-98.11723	4	15	062G01
D-04-029	16-Jun-04	Deadhorse Creek	49.23673	-98.00300	4	15	062G01
D-04-030	22-Jun-04	Ross Creek	50.76347	-100.95047	3	76	062K15
D-04-031	22-Jun-04	Ross Creek	50.75153	-100.91820	3	76	062K15
D-04-032	22-Jun-04	Ross Creek	50.76020	-100.92718	3	76	062K15
D-04-033	23-Jun-04	Ross Creek	50.75058	-100.90397	3	76	062K15
D-04-034	23-Jun-04	Ross Creek	50.75155	-100.91792	3	76	062K15
D-04-035	23-Jun-04	Ross Creek	50.74240	-100.89307	3	76	062K10
D-04-036	7-Jul-04	Big Boggy Creek	51.27820	-101.49030	4	92	062N06
W-04-001	3-May-04	Garrioch Creek	50.87222	-98.92098	4	110	062J15
W-04-002	3-May-04	Manitoba House Drain	50.86018	-98.85680	3	110	062J15
W-04-003	3-May-04	Bluff Creek	50.81602	-98.82763	2	110	062J15
W-04-004	3-May-04	Garrioch Creek at Rochland Drain	50.80132	-98.93403	4	110	062J15
W-04-005	3-May-04	Harcus Drain	50.72738	-98.83360	3	110	062J10
W-04-006	3-May-04	Unnamed tributary to Harcus Drain	50.71282	-98.84508	3	110	062J10
W-04-007	3-May-04	Garrioch Creek	50.77173	-98.99650	3	110	062J15
W-04-008	3-May-04	Garrioch Creek	50.71280	-99.06638	3	110	062J11
W-04-009	4-May-04	Upper Lake Mary Drain	50.76795	-99.08965	3	110	062J14
W-04-010	4-May-04	Smalley School Drain	50.66840	-98.71747	3	41	062J10

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W-04-011	4-May-04	Carriere Drain	50.63897	-98.71730	2	41	062J10
W-04-012	4-May-04	Unnamed tributary to Lake Manitoba	50.41745	-98.60330	2	41	062J07
W-04-013	4-May-04	Unnamed tributary to Lake Manitoba	50.43248	-98.61483	2	41	062J07
W-04-014	4-May-04	Unnamed tributary to Lake Manitoba	50.47660	-98.61490	2	41	062J07
W-04-015	4-May-04	Unnamed tributary to Lake Manitoba	50.50608	-98.63790	3	41	062J10
W-04-016	4-May-04	Unnamed tributary to Lake Manitoba	50.31403	-98.63775	2	41	062J07
W-04-017	4-May-04	Unnamed tributary to Lake Manitoba	50.34352	-98.63778	2	41	062J07
W-04-018	4-May-04	Unnamed tributary to Lake Manitoba	50.28452	-98.63807	2	41	062J07
W-04-019	4-May-04	House Creek	50.18173	-98.49185	2	101	062J01
W-04-020	5-May-04	House Creek	50.13745	-98.47415	2	101	062J01
W-04-021	5-May-04	Long Creek	50.10788	-98.43333	2	101	062J01
W-04-022	5-May-04	Unnamed tributary to Short Creek	50.10798	-98.39068	2	101	062J01
W-04-023	5-May-04	Long Creek	50.12273	-98.43840	2	101	062J01
W-04-024	5-May-04	Long Creek	50.13972	-98.42405	2	101	062J01
W-04-025	5-May-04	Short Creek	50.13733	-98.41893	2	101	062J01
W-04-026	5-May-04	Unnamed tributary to Big Lake	50.13732	-98.40683	3	101	062J01
W-04-027	5-May-04	Unnamed tributary to Blind Channel	50.10760	-98.33917	3	101	062J01
W-04-028	5-May-04	Blind Channel	50.10975	-98.30810	2	101	062J01
W-04-029	6-May-04	Unnamed tributary to Lake Manitoba	50.10783	-98.37650	3	101	062J01
W-04-030	6-May-04	Cram Creek	50.12255	-98.36398	3	101	062J01
W-04-031	6-May-04	Unnamed tributary to Portage Creek	50.10982	-98.26242	2	101	062J01
W-04-032	6-May-04	Portage Creek	50.10807	-98.24412	2	101	062J01
W-04-033	6-May-04	Unnamed tributary to Little Bay	50.13740	-98.20002	2	101	062J01
W-04-034	6-May-04	Unnamed tributary to Bluebill Bay	50.11338	-98.21660	3	101	062J01
W-04-035	6-May-04	Unnamed tributary to Bluebill Bay	50.13508	-98.17063	3	101	062J01

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W-04-036	6-May-04	Unnamed tributary to Lake Frances	50.24086	-97.96294	2	109	062I04
W-04-037	6-May-04	Wagon Creek	50.47730	-97.98753	3	109	062I05
W-04-038	6-May-04	Wagon Creek	50.41833	-97.83255	3	109	062I05
W-04-039	10-May-04	Wagon Creek	50.47628	-97.98947	3	109	062I05
W-04-040	10-May-04	Wagon Creek	50.47053	-97.87562	3	109	062I05
W-04-041	11-May-04	Unnamed tributary to Lake St. Martin	51.76758	-98.61240	2	112	062O15
W-04-042	11-May-04	Byng Drain	51.75605	-98.56973	2	112	062O15
W-04-043	11-May-04	Partridge Creek East Branch	51.75317	-98.66447	3	112	062O15
W-04-044	11-May-04	Partridge Creek West Branch	51.74513	-98.67057	3	112	062O10
W-04-045	11-May-04	Karpaty School Drain	51.72332	-98.71190	2	112	062O10
W-04-046	11-May-04	Unnamed tributary to Lake Pineimuta	51.73190	-98.68837	2	112	062O10
W-04-047	11-May-04	Unnamed tributary to Homebrook Drain	51.74037	-98.73520	2	112	062O10
W-04-048	11-May-04	Unnamed tributary to Homebrook Drain	51.74038	-98.73588	2	112	062O10
W-04-049	11-May-04	Unnamed tributary to Homebrook Drain	51.74027	-98.77108	3	112	062O10
W-04-050	11-May-04	Unnamed tributary to Lake Manitoba	51.74028	-98.87308	3	112	062O10
W-04-051	12-May-04	Powderhorn Creek	51.74035	-98.90143	2	112	062O10
W-04-052	12-May-04	Basket River	51.74044	-98.95285	2	112	062O10
W-04-053	18-May-04	North Arm Upper Manning Canal	49.57397	-96.68628	3	7	062H10
W-04-054	18-May-04	Manning Canal	49.56008	-96.71538	3	7	062H10
W-04-055	18-May-04	Chortiz Drain	49.54575	-96.80828	3	7	062H10
W-04-056	18-May-04	Unnamed tributary to South Arm Upper Manning Canal	49.54550	-96.75617	2	7	062H10
W-04-057	18-May-04	South Arm Upper Manning Canal	49.54540	-96.74667	3	7	062H10
W-04-058	18-May-04	Unnamed tributary to Manning Canal	49.54545	-96.72313	2	7	062H10
W-04-059	20-May-04	Unnamed tributary to Manning Canal	49.50272	-96.57833	3	7	062H10

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W-04-060	20-May-04	Manning Canal	49.53220	-96.65503	3	7	062H10
W-04-061	20-May-04	South Lateral	49.42348	-96.66812	3	7	062H07
W-04-062	20-May-04	South Lateral	49.44363	-96.71378	3	7	062H07
W-04-063	20-May-04	Unnamed tributary to South Lateral	49.47297	-96.75905	3	7	062H07
W-04-064	20-May-04	South Lateral	49.50272	-96.81888	4	7	062H10
W-04-065	20-May-04	Old South Lateral	49.57602	-96.88897	2	7	062H10
W-04-066	20-May-04	Unnamed tributary to Manning Canal	49.57562	-96.84352	2	7	062H10
W-04-067	20-May-04	North Lateral	49.62008	-96.86689	3	7	062H10
W-04-068	20-May-04	Manning Canal	49.62412	-96.88930	5	7	062H10
W-04-069	21-May-04	Unnamed tributary to Red River	49.76717	-96.73003	2	9	062H15
W-04-070	21-May-04	Station Road Drain	49.78192	-96.75282	2	9	062H15
W-04-071	21-May-04	Lower Youville Drain	49.73832	-96.95837	3	9	062H10
W-04-072	25-May-04	Unnamed tributary to Seine River	49.73433	-96.85497	2	9	062H10
W-04-073	25-May-04	Unnamed tributary to Seine River	49.75187	-96.89383	2	9	062H15
W-04-074	25-May-04	Grove Drain	49.82693	-96.91295	3	9	062H15
W-04-075	25-May-04	South Bibeau Drain	49.85642	-96.93553	2	9	062H15
W-04-076	25-May-04	Prairie Centre Line Drain	49.84165	-96.93553	3	9	062H15
W-04-077	26-May-04	Crescent Lake Overflow	50.35929	-97.18275	3	30	062I06
W-04-078	26-May-04	Ross Creek	50.34018	-97.27545	3	30	062I06
W-04-079	26-May-04	Ross Creek	50.32982	-97.15962	3	30	062I06
W-04-080	26-May-04	Ross Creek	50.32985	-97.14817	3	30	062I06
W-04-081	26-May-04	Ross Creek	50.32905	-97.08793	4	30	062I06
W-04-082	26-May-04	Boundary Drain	50.38882	-97.11322	3	30	062I06
W-04-083	27-May-04	Netley Creek	50.46780	-97.20627	3	30	062I06
W-04-084	27-May-04	Netley Creek	50.38883	-97.13907	3	30	062I06

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W-04-085	28-May-04	Semple Drain	50.21820	-96.74898	2	13	062I02
W-04-086	28-May-04	Devils Creek	50.22310	-96.72545	5	13	062I02
W-04-087	28-May-04	Pelletier Drain	50.23183	-96.72578	3	13	062I02
W-04-088	28-May-04	Township Line Drain	50.23948	-96.72607	3	13	062I02
W-04-089	1-Jun-04	Unnamed tributary to Seine River	49.39740	-96.47009	2	8	062H08
W-04-090	1-Jun-04	Unnamed tributary to Seine River	49.39963	-96.48778	2	8	062H08
W-04-091	1-Jun-04	Marchand West Drain	49.37023	-96.41972	3	8	062H08
W-04-092	1-Jun-04	Unnamed tributary to Marchand West Drain	49.34208	-96.41975	3	8	062H08
W-04-093	1-Jun-04	Conroy Creek	49.11848	-96.55045	2	2	062H02
W-04-094	2-Jun-04	Unnamed tributary to Rat River	49.20915	-96.10252	2	3	062H01
W-04-095	2-Jun-04	Rat River	49.25280	-96.05943	2	3	062H08
W-04-096	2-Jun-04	Unnamed tributary to Rat River	49.21234	-96.08126	2	3	062H01
W-04-097	2-Jun-04	Unnamed tributary to Rat River	49.22853	-96.06191	3	3	062H01
W-04-098	2-Jun-04	Unnamed tributary to Rat River	49.23567	-96.05615	2	3	062H01
W-04-099	2-Jun-04	Rat River	49.20955	-96.28653	4	3	062H01
W-04-100	2-Jun-04	Rat River	49.22961	-96.50989	4	3	062H02
W-04-101	3-Jun-04	Unnamed tributary to Roseau River	49.16588	-96.13573	2	2	062H01
W-04-102	3-Jun-04	Conroy Creek	49.13343	-96.57506	2	2	062H02
W-04-103	3-Jun-04	Unnamed tributary to Roseau River	49.11913	-96.67323	2	2	062H02
W-04-104	3-Jun-04	Vita South Drain	49.08125	-96.51670	2	2	062H02
W-04-105	3-Jun-04	Unnamed tributary to Vita Drain	49.13940	-96.62895	2	2	062H02
W-04-106	3-Jun-04	Unnamed tributary to Vita Drain	49.16330	-96.74112	2	2	062H02
W-04-107	3-Jun-04	Roseau River	49.13395	-96.76592	4	2	062H02
W-04-108	3-Jun-04	Jordan River	49.07413	-96.84183	2	2	062H02
W-04-109	4-Jun-04	Harlow Drain	49.09462	-97.01020	3	2	062H03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-04-110	4-Jun-04	Ridgeville Drain	49.07515	-97.01042	2	2	062H03
W-04-111	4-Jun-04	Unnamed tributary to Main Drain	49.04907	-97.01025	2	2	062H03
W-04-112	4-Jun-04	Unnamed tributary to Roseau River	49.22183	-97.24818	3	2	062H03
W-04-113	5-Jun-04	Unnamed tributary to Devils Creek	50.04712	-96.58980	2	13	062I02
W-04-114	5-Jun-04	Unnamed tributary to Devils Creek	50.02147	-96.58987	2	13	062I02
W-04-115	5-Jun-04	Devils Creek	50.01765	-96.61265	3	13	062I02
W-04-116	5-Jun-04	Selkirk Line Drain	50.12033	-96.63468	3	13	062I02
W-04-117	7-Jun-04	Unnamed tributary to Lake Winnipeg	50.26904	-96.71061	2	13	062I07
W-04-118	7-Jun-04	Unnamed tributary to Libau Drain	50.26917	-96.69307	2	13	062I07
W-04-119	8-Jun-04	Unnamed tributary to Roseau River	49.13380	-96.67138	2	2	062H02
W-04-120	8-Jun-04	Unnamed tributary to Roseau River	49.14852	-96.78588	2	2	062H02
W-04-121	8-Jun-04	Unnamed tributary to Roseau River	49.14840	-96.80823	2	2	062H02
W-04-122	8-Jun-04	Unnamed tributary to Roseau River	49.11872	-97.14507	2	2	062H03
W-04-123	8-Jun-04	Unnamed tributary to Roseau River	49.11868	-97.15615	2	2	062H03
W-04-124	8-Jun-04	Unnamed tributary to Roseau River	49.11245	-97.16770	2	2	062H03
W-04-125	9-Jun-04	North Branch Jordan River	49.12657	-96.80855	2	2	062H02
W-04-126	9-Jun-04	Unnamed tributary to Jordon River	49.12278	-96.87595	2	2	062H02
W-04-127	9-Jun-04	Jordan River	49.11323	-96.87585	3	2	062H02
W-04-128	9-Jun-04	Unnamed tributary to Stewart Drain	49.02967	-96.80806	2	2	062H02
W-04-129	9-Jun-04	Casson Drain	49.09330	-96.89842	2	2	062H02
W-04-130	9-Jun-04	Unnamed tributary to Jordan River	49.13355	-96.94365	2	2	062H02
W-04-131	9-Jun-04	Unnamed tributary to Stewart Drain	49.13348	-96.97555	2	2	062H02
W-04-132	9-Jun-04	Unnamed tributary to Ridgeville Drain	49.10850	-97.01063	2	2	062H03
W-04-133	9-Jun-04	2 Mile Drain	49.02995	-97.14483	3	2	062H03
W-04-134	9-Jun-04	Unnamed tributary to Main Drain	49.05958	-97.12238	2	2	062H03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-04-135	9-Jun-04	Unnamed tributary to Main Drain	49.05952	-97.09978	2	2	062H03
W-04-136	10-Jun-04	Unnamed tributary to Main Drain	49.05940	-97.01006	2	2	062H03
W-04-137	10-Jun-04	Unnamed tributary to Main Drain	49.03749	-97.00987	2	2	062H03
W-04-138	10-Jun-04	Fredensthal Drain	49.02998	-97.07740	3	2	062H03
W-04-139	10-Jun-04	Main Drain	49.03002	-97.03255	2	2	062H03
W-04-140	10-Jun-04	Unnamed tributary to Red River	49.08922	-97.18963	2	2	062H03
W-04-141	10-Jun-04	Main Drain	49.08904	-97.09997	4	2	062H03
W-04-142	14-Jun-04	Unnamed tributary to Roseau River	49.17010	-97.23482	2	2	062H03
W-04-143	14-Jun-04	Unnamed tributary to Roseau River	49.14788	-97.23477	2	2	062H03
W-04-144	14-Jun-04	Unnamed tributary to Roseau River	49.13307	-97.23480	2	2	062H03
W-04-145	14-Jun-04	Unnamed tributary to Roseau River	49.16397	-97.16783	2	2	062H03
W-04-146	14-Jun-04	Confluence of unnamed tributary and Kyle Drain	49.20727	-97.16488	2	2	062H03
W-04-147	14-Jun-04	Unnamed tributary to Roseau River	49.20718	-97.07472	2	2	062H03
W-04-148	14-Jun-04	Langside Drain	49.22188	-97.05220	3	2	062H03
W-04-149	14-Jun-04	Unnamed tributary to Roseau River	49.19243	-97.09728	2	2	062H03
W-04-150	14-Jun-04	Unnamed tributary to Roseau River	49.23663	-97.16472	2	2	062H03
W-04-151	14-Jun-04	Angle Drain	49.35460	-97.10588	3	5	062H06
W-04-152	15-Jun-04	Marsh River	49.25126	-97.24764	3	5	062H06
W-04-153	15-Jun-04	Arnaud Drain	49.26605	-97.09638	3	5	062H06
W-04-154	15-Jun-04	Arnaud Drain	49.28198	-97.16517	3	5	062H06
W-04-155	15-Jun-04	Marsh River	49.29555	-97.21288	3	5	062H06
W-04-156	16-Jun-04	Unnamed tributary to Red River	49.51712	-97.21473	2	5	062H11
W-04-157	16-Jun-04	Lafond Drain	49.28073	-97.31868	3	5	062H06
W-04-158	16-Jun-04	Unnamed tributary to Red River	49.29550	-97.31542	2	5	062H06
W-04-159	16-Jun-04	Aubigny Drain	49.41369	-97.26845	3	5	062H06

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-04-160	16-Jun-04	Unnamed tributary to Marsh River	49.44327	-97.11060	2	5	062H06
W-04-161	16-Jun-04	Unnamed tributary to Marsh River	49.44332	-97.12847	2	5	062H06
W-04-162	16-Jun-04	Unnamed tributary to Marsh River	49.44323	-97.15303	2	5	062H06
W-04-163	16-Jun-04	Marsh River	49.50238	-97.15582	5	5	062H11
W-04-164	17-Jun-04	Unnamed tributary to Marsh River	49.35468	-97.16530	2	5	062H06
W-04-165	17-Jun-04	Unnamed tributary to Ste. Elizabeth Drain	49.32507	-97.12017	2	5	062H06
W-04-166	17-Jun-04	Ste. Elizabeth Drain	49.31043	-97.13185	3	5	062H06
W-04-167	17-Jun-04	Dufrost North Drain	49.38417	-97.12040	3	5	062H06
W-04-168	17-Jun-04	Unnamed tributary to Angle Drain	49.36932	-97.12027	2	5	062H06
W-04-169	17-Jun-04	Unnamed tributary to Red River	49.46242	-97.24400	2	5	062H06
W-04-170	17-Jun-04	Unnamed tributary to Red River	49.44590	-97.25695	2	5	062H06
W-04-171	17-Jun-04	Unnamed tributary to Red River	49.40008	-97.28423	2	5	062H06
W-04-172	17-Jun-04	Dufrost North Drain	49.38410	-97.14287	4	5	062H06
W-04-173	18-Jun-04	Prefontaine Drain	49.63525	-97.00330	3	6	062H11
W-04-174	18-Jun-04	D - 20 Drain	49.57653	-97.10230	4	6	062H11
W-04-175	21-Jun-04	Indian Reserve Drain	50.32857	-96.65403	3	13	062I07
W-04-176	21-Jun-04	T - Drain	50.31133	-96.47598	3	10	062I08
W-04-177	21-Jun-04	T - Drain	50.31135	-96.48228	3	10	062I08
W-04-178	21-Jun-04	Greenwald Drain	50.29642	-96.53543	3	10	062I07
W-04-179	22-Jun-04	Gusta Drain	50.47417	-96.32952	3	14	062I08
W-04-180	22-Jun-04	Hiebert Drain	50.41513	-96.30658	3	14	062I08
W-04-181	22-Jun-04	Unnamed tributary to Lac du Bonnet	50.33800	-95.91050	2	96	052L05
W-04-182	22-Jun-04	Unnamed tributary to Lee River	50.30154	-95.87763	3	96	052L05
W-04-183	22-Jun-04	Boggy Creek	50.25090	-95.88733	4	96	052L05
W-04-184	22-Jun-04	Unnamed tributary to Lac du Bonnet	50.27956	-95.96923	2	96	052L05

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-04-185	23-Jun-04	Unnamed tributary to Main Drain No. 1	50.35618	-96.32870	3	14	062I08
W-04-186	23-Jun-04	Stead Drain	50.40068	-96.32997	3	14	062I08
W-04-187	23-Jun-04	Unnamed tributary to Main Drain No. 1	50.38562	-96.35370	2	14	062I08
W-04-188	23-Jun-04	Unnamed tributary to Maple Creek	50.26717	-96.12677	2	96	062I08
W-04-189	24-Jun-04	Unnamed tributary to Maskwa River	50.54777	-96.09843	2	96	062I09
W-04-190	24-Jun-04	Sandy Creek	50.53553	-96.09805	2	96	062I09
W-04-191	24-Jun-04	Spence Creek	50.61687	-96.27338	2	96	062I09
W-04-192	24-Jun-04	Unnamed tributary to Winnipeg River	50.57720	-96.20660	1	96	062I09
W-04-193	24-Jun-04	Unnamed tributary to Winnipeg River	50.57717	-96.18497	1	96	062I09
W-04-194	24-Jun-04	Unnamed tributary to Lac du Bonnet	50.39717	-96.00515	2	96	062I08
W-04-195	25-Jun-04	Unnamed tributary to Winnipeg River	50.45860	-96.04228	2	96	062I08
W-04-196	25-Jun-04	Unnamed tributary near Maple Creek	50.37199	-96.02096	1	96	062I08
W-04-197	25-Jun-04	Unnamed tributary to Winnipeg River	50.16585	-96.04915	2	96	062I01
W-04-198	29-Jun-04	Unnamed tributary to Red River	50.11817	-96.88590	2	12	062I02
W-04-199	29-Jun-04	Unnamed tributary to Red River	50.08390	-96.91542	2	12	062I02
W-04-200	29-Jun-04	Shkolny Creek	49.99445	-96.91095	2	12	062H15
W-04-201	29-Jun-04	Unnamed tributary to Cook's Creek Diversion	49.88758	-96.88860	2	12	062H15
W-04-202	29-Jun-04	Cook's Creek Diversion	49.90025	-96.88823	4	12	062H15
W-04-203	29-Jun-04	Road Drain	49.92891	-96.93368	3	12	062H15
W-04-204	29-Jun-04	Carr's Creek	49.94520	-96.95617	3	12	062H15
W-04-205	29-Jun-04	Gunn Creek	50.06470	-96.93757	3	12	062I02
W-04-206	29-Jun-04	Bottomly Creek	49.98765	-97.04428	2	12	062H14
W-04-207	5-Jul-04	Brokenhead River	49.65023	-96.27640	2	88	062H09
W-04-208	5-Jul-04	Coulee St. Onge	49.65780	-96.32663	2	88	062H09
W-04-209	5-Jul-04	Brokenhead River	49.90798	-96.38345	3	10	062H16

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-04-210	5-Jul-04	Hazel Creek	49.92720	-96.38207	3	10	062H16
W-04-211	5-Jul-04	Unnamed tributary to Brokenhead River	50.00268	-96.42370	2	10	062I01
W-04-212	6-Jul-04	Unnamed tributary to Hazel Creek	49.99543	-96.47488	2	10	062H16
W-04-213	6-Jul-04	Hazel Creek	50.00293	-96.45138	4	10	062I01
W-04-214	6-Jul-04	Unnamed tributary to Brokenhead River	50.05487	-96.49792	2	10	062I01
W-04-215	6-Jul-04	Unnamed tributary to Brokenhead River	50.04697	-96.47500	2	10	062I01
W-04-216	6-Jul-04	Unnamed tributary to Brokenhead River	50.03205	-96.40633	2	10	062I01
W-04-217	6-Jul-04	Bachman East Drain	50.07625	-96.33762	3	10	062I01
W-04-218	6-Jul-04	U - Drain	50.28188	-96.46685	3	10	062I08
W-04-219	7-Jul-04	Unnamed tributary to Brokenhead River	50.32617	-96.51290	2	10	062I07
W-04-220	7-Jul-04	Unnamed tributary to T - Drain	50.32640	-96.44550	2	10	062I08
W-04-221	7-Jul-04	Unnamed tributary to Brokenhead River	50.25263	-96.44460	2	10	062I08
W-04-222	7-Jul-04	C - Drain	50.23762	-96.42967	2	10	062I01
W-04-223	7-Jul-04	W - Drain	50.22278	-96.45140	3	10	062I01
W-04-224	7-Jul-04	Unnamed tributary to Brokenhead River	50.16463	-96.42923	2	10	062I01
W-04-225	7-Jul-04	Bachman East Drain	50.12028	-96.40613	3	10	062I01
W-04-226	7-Jul-04	Unnamed tributary to Brokenhead River	50.13525	-96.42908	2	10	062I01
W-04-227	7-Jul-04	Unnamed tributary to Brokenhead River	50.10567	-96.42917	2	10	062I01
W-04-228	7-Jul-04	Unnamed tributary to Brokenhead River	50.16465	-96.47458	2	10	062I01
W-04-229	7-Jul-04	Unnamed tributary to Oneschuk Drain	50.19423	-96.52057	2	10	062I02
W-04-230	7-Jul-04	Brokenhead Drain	50.22345	-96.51960	3	10	062I02
W-04-231	8-Jul-04	U - Drain	50.30468	-96.21378	3	10	062I08
W-04-232	8-Jul-04	Tourond Creek	49.42138	-96.75777	4	6	062H07
W-04-233	13-Jul-04	Garland River	51.79863	-100.30252	5	103	062N16
W-04-234	13-Jul-04	Unnamed tributary to Garland River	51.74997	-100.37705	2	103	062N09

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-04-235	13-Jul-04	Unnamed tributary to Wellburns Creek	51.79834	-100.23440	2	103	062N16
W-04-236	13-Jul-04	Unnamed tributary to Wellburns Creek	51.79860	-100.22119	2	103	062N16
W-04-237	13-Jul-04	Wellburns Creek	51.79858	-100.20442	3	104	062N16
W-04-238	13-Jul-04	Bickels Creek	51.81133	-100.10788	2	103	062N16
W-04-239	13-Jul-04	Bonys Creek	51.75054	-100.08379	2	103	062N16
W-04-240	14-Jul-04	Unnamed tributary to Lake Winnipegosis	51.96124	-100.14326	2	103	062N16
W-04-241	14-Jul-04	Unnamed tributary to Garland River	51.90586	-100.24935	2	103	062N16
W-04-242	14-Jul-04	Unnamed tributary to Garland River	51.88354	-100.24927	3	103	062N16
W-04-243	14-Jul-04	Wellburns Creek	51.91243	-100.15361	4	103	062N16
W-04-244	14-Jul-04	Big Stone Creek	51.89907	-100.14469	2	103	062N16
W-04-245	14-Jul-04	Unnamed tributary to Lake Winnipegosis	51.88085	-100.13261	2	103	062N16
W-04-246	14-Jul-04	Unnamed tributary to Lake Winnipegosis	51.85594	-100.13178	3	103	062N16
W-04-247	14-Jul-04	Flemings Creek	51.77592	-100.08390	2	103	062N16
W-04-248	14-Jul-04	Unnamed tributary to Garland River	51.74044	-100.31257	2	103	062N09
W-04-249	14-Jul-04	South Garland Creek	51.62410	-100.54514	4	103	062N10
W-04-250	14-Jul-04	Unnamed tributary to Garland River	51.64938	-100.50958	2	103	062N10
W-04-251	15-Jul-04	Unnamed tributary to South Garland River	51.63874	-100.46281	2	103	062N09
W-04-252	15-Jul-04	Garland River	51.67132	-100.51053	3	103	062N10
W-04-253	15-Jul-04	North Garland Creek	51.68706	-100.56861	3	103	062N10
W-04-254	15-Jul-04	West Favel River	51.93667	-101.00797	3	52	062N14
W-04-255	15-Jul-04	Roaring River	51.85678	-100.94103	3	51	062N15
W-04-256	20-Jul-04	Tourond Creek	49.56170	-97.09455	4	6	062H11
W-04-257	21-Jul-04	Unnamed tributary to Broadvalley Drain	50.99417	-97.62620	2	33	062I13
W-04-258	21-Jul-04	Unnamed tributary to Broadvalley Drain	51.02358	-97.60283	3	33	062P04
W-04-259	21-Jul-04	Plishka Drain Lateral	51.03833	-97.67302	3	33	062P04

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W-04-260	21-Jul-04	Blind Creek	51.10487	-97.76675	3	33	062P04
W-04-261	21-Jul-04	Leroy Drain	51.17642	-97.76695	2	33	062P04
W-04-262	22-Jul-04	Goldeye Creek	51.44112	-97.37617	2	33	062P06
W-04-263	22-Jul-04	Red Rose Drain	51.42095	-97.48582	2	33	062P06
W-04-264	22-Jul-04	Marcynuiks Drain	51.42102	-97.53262	2	33	062P05
W-04-265	22-Jul-04	Sunny Valley School Drain	51.40645	-97.49728	3	33	062P06
W-04-266	22-Jul-04	Snake Creek	51.37638	-97.49468	2	33	062P06
W-04-267	22-Jul-04	Eaglenest Creek	51.35320	-97.50470	2	33	062P05
W-04-268	22-Jul-04	Wonder Lake Creek	51.26485	-97.59875	2	33	062P05
W-04-269	22-Jul-04	Unnamed tributary to Fisher River	51.25245	-97.55322	2	33	062P05
W-04-270	22-Jul-04	Bottle Creek	51.21523	-97.50572	3	33	062P04
W-04-271	23-Jul-04	Meridian Drain	51.18562	-97.50282	3	33	062P04
W-04-272	23-Jul-04	Hodgson Drain	51.20043	-97.58318	3	33	062P04
W-04-273	23-Jul-04	Unnamed tributary to Fisher River	51.21506	-97.71415	3	33	062P04
W-04-274	23-Jul-04	Fisher River	51.18583	-97.70113	4	33	062P04
W-04-275	3-Aug-04	McTavish Drain	49.42953	-97.30061	3	18	062H06
W-04-276	3-Aug-04	Unnamed tributary to Morris River	49.45835	-97.41402	2	18	062H06
W-04-277	3-Aug-04	Unnamed tributary to Taylor Drain	49.49517	-97.30118	3	18	062H06
W-04-278	3-Aug-04	Taylor Drain	49.50252	-97.32587	3	18	062H11
W-04-279	3-Aug-04	Garber Drain	49.54697	-97.45207	2	18	062H11
W-04-280	3-Aug-04	Strauss Drain Coulee	49.56935	-97.55005	3	18	062H12
W-04-281	3-Aug-04	Boyne Channel	49.53210	-97.54975	2	18	062H12
W-04-282	3-Aug-04	Unnamed tributary to Morris River	49.51742	-97.52717	2	18	062H12
W-04-283	3-Aug-04	Forrester Drain	49.50272	-97.52712	3	18	062H12
W-04-284	3-Aug-04	Lewis Drain	49.49737	-97.50447	2	18	062H05

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W-04-285	3-Aug-04	Blackhurst Drain	49.51675	-97.50443	3	18	062H12
W-04-286	3-Aug-04	Morris River	49.53958	-97.52727	6	18	062H12
W-04-287	3-Aug-04	Norquay Channel	49.57640	-97.66385	5	18	062H12
W-04-288	4-Aug-04	Carrothers Drain	49.57590	-97.82343	2	18	062H12
W-04-289	4-Aug-04	Norquay Channel	49.54562	-97.84787	5	18	062H12
W-04-290	4-Aug-04	Unnamed tributary to Pembina River	49.18080	-98.46992	2	60	062G01
W-04-291	4-Aug-04	Unnamed tributary to Pembina River	49.14356	-98.46983	2	60	062G01
W-04-292	4-Aug-04	Mowbray Drain	49.00107	-98.48560	3	60	062G01
W-04-293	4-Aug-04	Unnamed tributary to Snowflake Creek	49.04457	-98.62712	2	60	062G02
W-04-294	4-Aug-04	Snowflake Creek	49.01113	-98.62690	2	60	062G02
W-04-295	4-Aug-04	Stony Creek	49.08518	-98.67189	2	60	062G02
W-04-296	4-Aug-04	Unnamed tributary to Pembina River	49.22453	-98.67103	2	60	062G02
W-04-297	5-Aug-04	Pembina River	49.05790	-98.46980	6	60	062G01
W-04-298	5-Aug-04	Unnamed tributary to Mowbray Creek	49.00038	-98.45417	3	60	062G01
W-04-299	5-Aug-04	Snowflake Creek	49.02108	-98.60357	5	60	062G02
W-04-300	5-Aug-04	Pembina River	49.07525	-98.58982	6	60	062G02
W-04-301	5-Aug-04	Pembina River	49.14823	-98.56415	6	60	062G02
X-04-001	5-May-04	Little Morris River	49.45032	-97.50435	5	17	062H05
X-04-002	5-May-04	Tobacco Creek	49.39894	-97.71056	5	17	062H05
X-04-003	5-May-04	Tobacco Creek	49.39886	-97.77350	5	17	062H05
X-04-004	5-May-04	Graham Creek	49.38186	-97.82094	4	17	062H05
X-04-005	5-May-04	Tobacco Creek	49.39922	-97.82094	5	17	062H05
X-04-006	6-May-04	Little Morris River	49.45364	-97.45906	5	17	062H06
X-04-007	6-May-04	Unnamed tributary to Little Morris River	49.45844	-97.50444	2	17	062H05
X-04-008	6-May-04	Brown Drain	49.45814	-97.50453	2	17	062H05

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
X-04-009	6-May-04	Bumett Drain	49.46853	-97.50444	2	17	062H05
X-04-010	6-May-04	4N Drain	49.43897	-97.52722	3	17	062H05
X-04-011	6-May-04	111 Drain	49.42897	-97.54989	2	17	062H05
X-04-012	6-May-04	110 Drain	49.41386	-97.59494	2	17	062H05
X-04-013	6-May-04	Graham Creek	49.37350	-98.00145	4	17	062G08
X-04-014	6-May-04	Tobacco Creek	49.40336	-98.00158	4	17	062G08
X-04-015	6-May-04	Graham Creek	49.36611	-98.02442	4	17	062G08
X-04-016	6-May-04	Graham Creek	49.36856	-98.09386	3	17	062G08
X-04-017	6-May-04	Graham Creek	49.36536	-98.09881	3	17	062G08
X-04-018	6-May-04	Tobacco Creek	49.42383	-98.11492	4	17	062G08
X-04-019	6-May-04	Tobacco Creek	49.42714	-98.15117	3	17	062G08
X-04-020	6-May-04	Tobacco Creek	49.43594	-98.20519	3	17	062G08
X-04-021	6-May-04	South Tobacco Creek	49.41381	-98.21817	3	17	062G08
X-04-022	6-May-04	4N Drain	49.44417	-97.77589	3	17	062H05
X-04-023	10-May-04	Morris River	49.59131	-97.58239	5	19	062H12
X-04-024	10-May-04	Unnamed tributary to Morris River	49.59092	-97.59581	2	19	062H12
X-04-025	10-May-04	Unnamed tributary to Morris River	49.60620	-97.58985	2	19	062H12
X-04-026	10-May-04	11 - A Drain	49.62086	-97.59758	4	19	062H12
X-04-027	10-May-04	Unnamed tributary to Morris River	49.65047	-97.59586	2	19	062H12
X-04-028	10-May-04	Allison Drain	49.64139	-97.61842	3	19	062H12
X-04-029	10-May-04	Castor Drain	49.63569	-97.61836	2	19	062H12
X-04-030	10-May-04	11 - A Drain	49.62078	-97.61836	4	19	062H12
X-04-031	10-May-04	11 - A Drain	49.62067	-97.64125	4	19	062H12
X-04-032	10-May-04	11 - A Drain	49.62089	-97.70917	4	19	062H12
X-04-033	10-May-04	11 - A Drain	49.63542	-97.80003	4	19	062H12

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X-04-034	10-May-04	11 - A South Lateral Drain	49.63567	-97.86858	3	19	062H12
X-04-035	10-May-04	11 - A South Lateral Drain	49.63578	-97.93731	3	19	062H12
X-04-036	14-May-04	Northumberland Drain	50.00731	-97.05306	2	28	062I03
X-04-037	14-May-04	Parks Creek	50.03503	-97.03986	4	28	062I03
X-04-038	14-May-04	Mirey Creek	50.08450	-96.96453	2	28	062I02
X-04-039	14-May-04	Unnamed tributary to Red River	50.11658	-96.92872	2	28	062I02
X-04-040	14-May-04	Unnamed tributary to Parks Creek	50.04736	-97.06944	3	28	062I03
X-04-041	14-May-04	Parks Creek	50.04756	-97.06756	4	28	062I03
X-04-042	14-May-04	Dewar Drain	50.17406	-97.07156	3	29	062I03
X-04-043	17-May-04	Big Grass River	50.50606	-98.97181	5	43	062J10
X-04-044	17-May-04	Alonsa Drain	50.59472	-98.89433	3	43	062J10
X-04-045	17-May-04	Alonsa Drain	50.62400	-98.90339	3	43	062J10
X-04-046	17-May-04	Alonsa Drain	50.56492	-98.89311	3	43	062J10
X-04-047	17-May-04	Jumping Deer Creek	50.44128	-99.00803	3	43	062J06
X-04-048	18-May-04	Snake Creek	50.28458	-99.30431	5	39	062J06
X-04-049	18-May-04	Mink Creek	50.24058	-99.34892	2	39	062J03
X-04-050	18-May-04	Dead Lake Drain	50.18733	-98.95072	2	39	062J02
X-04-051	18-May-04	Golden Stream	50.13725	-98.96419	3	39	062J02
X-04-052	19-May-04	Westboume Drain	50.11925	-98.56033	5	36	062J02
X-04-053	20-May-04	Westboume Drain	50.13786	-98.56058	5	36	062J02
X-04-054	20-May-04	Westboume Drain	50.09317	-98.56056	5	36	062J02
X-04-055	20-May-04	Westboume Drain	50.06326	-98.56049	5	36	062J02
X-04-056	20-May-04	Beaver Creek	50.06347	-98.70692	4	36	062J02
X-04-057	20-May-04	Beaver Creek	50.01939	-98.72211	4	36	062J02
X-04-058	20-May-04	Image Creek	50.02244	-98.65203	3	36	062J02

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X-04-059	20-May-04	Image Creek	49.98622	-98.72103	3	36	062G15
X-04-060	20-May-04	Beaver Creek	49.97658	-98.76653	4	36	062G15
X-04-061	20-May-04	Anderson Drain	49.94575	-98.83131	3	36	062G15
X-04-062	20-May-04	Beaver Creek	49.94567	-98.87367	3	36	062G15
X-04-063	20-May-04	Westbourne Drain	50.02625	-98.56044	4	36	062J02
X-04-064	20-May-04	Westbourne Drain	50.03408	-98.56019	4	36	062J02
X-04-065	21-May-04	Long Lake Drain	50.01478	-97.76000	4	25	062I04
X-04-066	21-May-04	Long Lake Drain	50.04869	-97.82614	4	25	062I04
X-04-067	25-May-04	La Salle River	49.88706	-97.76722	4	24	062H13
X-04-068	25-May-04	Elm Creek Channel	49.81264	-97.78239	5	21	062H13
X-04-069	25-May-04	Elm Creek Channel	49.68917	-98.00536	3	21	062G09
X-04-070	25-May-04	Elm Creek Channel	49.78339	-98.00567	3	21	062G16
X-04-071	25-May-04	Boundary Drain	49.79819	-98.00639	3	21	062G16
X-04-072	25-May-04	Crooked Lake Channel	49.81292	-98.00272	4	21	062G16
X-04-073	25-May-04	Crooked Lake Channel	49.87194	-98.14200	3	21	062G16
X-04-074	26-May-04	Long Lake Drain	50.07411	-98.01025	4	25	062J01
X-04-075	26-May-04	Scotts Drain	50.01706	-97.74778	3	25	062I04
X-04-076	26-May-04	La Salle River	49.97508	-97.80231	4	24	062H13
X-04-077	26-May-04	La Salle River	49.97467	-97.81311	4	24	062H13
X-04-078	26-May-04	Elm River Channel	49.88642	-97.77781	4	24	062H13
X-04-079	26-May-04	Meakin Creek	49.76042	-97.66406	4	23	062H13
X-04-080	26-May-04	La Salle River	49.72256	-97.17261	5	22	062H11
X-04-081	27-May-04	Cooks Creek Diversion	49.89472	-96.93014	2	12	062H15
X-04-082	27-May-04	Springfield Road Drain	49.94528	-96.96864	3	12	062H15
X-04-083	27-May-04	Gunn Creek	50.08339	-96.93258	3	12	062I02

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X-04-084	27-May-04	Bunns Creek	49.91573	-97.00213	3	12	062H14
X-04-085	27-May-04	Seine River Diversion	49.65675	-96.63917	4	8	062H10
X-04-086	27-May-04	Giroux Drain	49.57672	-96.57036	3	8	062H10
X-04-087	27-May-04	Seine River	49.53228	-96.50736	4	8	062H10
X-04-088	27-May-04	La Broquerie Drain	49.50708	-96.48808	3	8	062H09
X-04-089	27-May-04	Marchand East Drain	49.44394	-96.40942	3	8	062H08
X-04-090	27-May-04	Unnamed tributary to Simard Creek	49.44389	-96.38883	2	8	062H08
X-04-091	28-May-04	Johnson Drain	49.62758	-96.64861	3	8	062H10
X-04-092	28-May-04	Youville Drain	49.66469	-96.85431	3	8	062H10
X-04-093	28-May-04	Tourond Creek	49.62075	-97.10789	5	6	062H11
X-04-094	28-May-04	Saint Adolphe Coulee	49.67975	-97.09328	4	6	062H11
X-04-095	1-Jun-04	Unnamed tributary to Red River	49.76892	-97.15833	2	22	062H14
X-04-096	1-Jun-04	Unnamed tributary to Red River	49.71783	-97.13617	2	22	062H11
X-04-097	1-Jun-04	Unnamed tributary to Red River	49.70447	-97.12658	2	22	062H11
X-04-098	1-Jun-04	Glenlea Drain	49.61456	-97.14086	4	22	062H11
X-04-099	1-Jun-04	Schwartz Drain	49.60567	-97.14547	3	22	062H11
X-04-100	1-Jun-04	La Pointe Coulee	49.54236	-97.20825	3	22	062H11
X-04-101	1-Jun-04	Unnamed tributary to Domain Drain	49.59181	-97.28739	2	22	062H11
X-04-102	2-Jun-04	Dubas Drain	50.14286	-96.79961	3	11	062I02
X-04-103	2-Jun-04	Township Line Drain	50.23953	-96.73492	3	13	062I02
X-04-104	2-Jun-04	Indian Reserve Drain	50.32856	-96.65422	3	13	062I07
X-04-105	2-Jun-04	Libau Drain	50.26781	-96.67414	3	13	062I07
X-04-106	3-Jun-04	Pembina River	49.26358	-99.46428	5	57	062G06
X-04-107	3-Jun-04	Unnamed tributary to Pembina River	49.22406	-99.42733	3	57	062G03
X-04-108	3-Jun-04	Unnamed tributary to Pembina River	49.20769	-99.46106	3	57	062G03

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X-04-109	3-Jun-04	Unnamed tributary to Pembina River	49.21747	-99.47258	2	57	062G03
X-04-110	4-Jun-04	Little Pembina River	49.15047	-99.86256	4	57	062G04
X-04-111	4-Jun-04	Long River	49.13689	-99.57133	5	58	062G04
X-04-112	4-Jun-04	Stony Creek	49.13239	-99.55444	3	58	062G04
X-04-113	7-Jun-04	Unnamed tributary to Badger Creek	49.08900	-99.24619	3	58	062G03
X-04-114	7-Jun-04	Badger Creek	49.07358	-99.30419	5	58	062G03
X-04-115	7-Jun-04	Jackfish Creek	49.14172	-99.66033	4	58	062G04
X-04-116	8-Jun-04	Stony Creek	49.07308	-99.68064	3	58	062G04
X-04-117	8-Jun-04	Jackfish Creek	49.07306	-99.80794	3	58	062G04
X-04-118	8-Jun-04	Long River	49.05836	-99.86647	3	58	062G04
X-04-119	8-Jun-04	Jackfish Creek	49.13208	-99.69117	4	58	062G04
X-04-120	8-Jun-04	Gimby Creek	49.06247	-99.59261	3	58	062G04
X-04-121	8-Jun-04	Gimby Creek	49.07700	-99.34664	4	58	062G03
X-04-122	9-Jun-04	Unnamed tributary to Badger Creek	49.04867	-99.32339	4	58	062G03
X-04-123	9-Jun-04	Unnamed tributary to Badger Creek	49.04389	-99.33583	2	58	062G03
X-04-124	9-Jun-04	Unnamed tributary to Badger Creek	49.02922	-99.29225	4	58	062G03
X-04-125	10-Jun-04	Barickman Coulee	49.94039	-97.62208	4	23	062H13
X-04-126	10-Jun-04	West Branch La Salle River	49.93075	-97.77514	3	24	062H13
X-04-127	10-Jun-04	No. 2 Drain	49.86100	-97.49853	3	23	062H14
X-04-128	14-Jun-04	Elm River	49.91233	-98.00994	3	24	062G16
X-04-129	14-Jun-04	Overhill Drain	49.93106	-98.30517	3	100	062G16
X-04-130	14-Jun-04	Unnamed tributary to Assiniboine River	49.83942	-98.43797	2	100	062G16
X-04-131	14-Jun-04	Rossendale Drain	49.81261	-98.57419	3	100	062G15
X-04-132	14-Jun-04	Edwin Drain	49.93053	-98.37683	3	100	062G16
X-04-133	15-Jun-04	Deep Creek	50.03417	-98.44661	3	35	062J01

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X-04-134	15-Jun-04	Mount Pleasant Drain	50.01919	-98.42281	3	35	062J01
X-04-135	15-Jun-04	Perch Creek	50.14461	-98.55167	3	35	062J02
X-04-136	15-Jun-04	New Beaudin Drain	50.12294	-98.64964	3	37	062J02
X-04-137	16-Jun-04	Pilot Creek	49.20850	-98.95067	4	55	062G02
X-04-138	16-Jun-04	Pilot Creek	49.23683	-98.97469	4	55	062G02
X-04-139	16-Jun-04	Pilot Creek	49.22167	-98.90458	4	55	062G02
X-04-140	16-Jun-04	Unnamed tributary to Pembina River	49.26594	-98.95253	2	55	062G07
X-04-141	17-Jun-04	McCoys Creek	49.25494	-98.79406	3	54	062G07
X-04-142	17-Jun-04	Unnamed tributary to Pembina River	49.36306	-98.82119	4	55	062G07
X-04-143	17-Jun-04	Unnamed tributary to Pembina River	49.39936	-98.83256	3	55	062G07
X-04-144	17-Jun-04	Dry River	49.33275	-99.02042	3	55	062G06
X-04-145	17-Jun-04	Marrinohurst Creek	49.24619	-99.04333	2	55	062G03
X-04-146	17-Jun-04	Syndicate Creek	49.30536	-98.72886	3	54	062G07
X-04-147	18-Jun-04	Unnamed tributary to Pembina River	49.01547	-98.13769	2	60	062G01
X-04-148	18-Jun-04	Kronsgart Drain	49.29700	-97.39139	3	16	062H06
X-04-149	21-Jun-04	Pine Creek	50.06244	-98.94994	4	38	062J02
X-04-150	21-Jun-04	Gillespie Drain	50.07822	-98.95019	4	38	062J02
X-04-151	21-Jun-04	Pine Creek	49.90219	-99.21439	3	38	062G14
X-04-152	22-Jun-04	Pine Creek	49.95758	-99.16553	3	38	062G14
X-04-153	22-Jun-04	Pine Creek	49.88683	-99.32294	1	38	062G14
X-04-154	22-Jun-04	Epinette Creek	49.74139	-99.32517	2	99	062G11
X-04-155	23-Jun-04	Boundary Creek	50.50869	-96.97562	4	31E	062I10
X-04-156	23-Jun-04	Boundary Creek Drain	50.52142	-97.00469	4	31E	062I11
X-04-157	23-Jun-04	Bass Drain	50.57783	-97.11428	4	31E	062I11
X-04-158	23-Jun-04	Willow Creek	50.59575	-97.11625	3	31E	062I11

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X-04-159	23-Jun-04	Bass Drain	50.58100	-97.13733	3	31E	062I11
X-04-160	24-Jun-04	Meleb Drain	50.68433	-97.02317	3	31E	062I11
X-04-161	24-Jun-04	Fish Lake Drain	50.70653	-97.04169	3	31E	062I11
X-04-162	24-Jun-04	Fish Lake Drain	50.69717	-96.99592	3	31E	062I10
X-04-163	25-Jun-04	Bass Drain	50.58083	-97.21508	3	31E	062I11
X-04-164	25-Jun-04	Drunken River	50.81339	-96.96725	4	31E	062I15
X-04-165	28-Jun-04	Unnamed tributary to Lake Winnipeg	50.88875	-96.99542	2	32	062I15
X-04-166	28-Jun-04	Bluegoose Drain	50.90211	-97.13447	3	32	062I14
X-04-167	28-Jun-04	Crooked Lake Drain	50.95283	-97.08567	4	32	062I14
X-04-168	28-Jun-04	Unnamed tributary to Lake Winnipeg	51.02325	-96.99119	3	32	062P02
X-04-169	28-Jun-04	Unnamed tributary to Lake Winnipeg	50.75622	-96.99478	2	31E	062I15
X-04-170	29-Jun-04	Meleb Drain	50.68431	-97.17578	3	31E	062I11
X-04-171	29-Jun-04	Fish Lake Drain	50.74647	-97.31864	3	31E	062I11
X-04-172	29-Jun-04	Rembrandt Drain	50.84669	-97.29764	3	32	062I14
X-04-173	29-Jun-04	Vidir Road Drain	50.96450	-97.30358	3	32	062I14
X-04-174	29-Jun-04	Bifrost Drain	50.99419	-97.34522	2	32	062I14
X-04-175	29-Jun-04	Sylvan Drain	50.99386	-97.41519	3	32	062I14
X-04-176	30-Jun-04	Icelandic River	50.97767	-97.46297	4	32	062I14
X-04-177	30-Jun-04	Unnamed tributary to Icelandic River	50.86640	-97.60041	3	32	062I13
X-04-178	1-Jul-04	Long Lake Drain	50.24069	-96.99408	3	29	062I02
X-04-179	1-Jul-04	Medicine Creek	50.24050	-96.95394	2	29	062I02
X-04-180	2-Jul-04	Unnamed tributary to Lake Winnipeg	51.22981	-97.15153	2	106	062P03
X-04-181	2-Jul-04	Hodgson Road Drain	51.22969	-97.29436	3	106	062P03
X-04-182	5-Jul-04	Crockatt Drain	50.44806	-97.66558	3	108	062I05
X-04-183	5-Jul-04	Crockatt Drain	50.44061	-97.64797	3	108	062I05

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X-04-184	5-Jul-04	Pine Lake Drain	50.84783	-98.36717	3	34	062J16
X-04-185	5-Jul-04	Chippewa Creek Drain	50.77169	-98.30111	3	34	062J16
X-04-186	5-Jul-04	Swan Lake Drain	50.85986	-98.13442	3	31W	062J16
X-04-187	6-Jul-04	Swan Creek at Swan Lake Dam	50.80050	-98.16958	3	31W	062J16
X-04-188	6-Jul-04	Island Lake Drain	50.77769	-97.97169	4	31W	062I13
X-04-189	6-Jul-04	Hayward Drain	50.71333	-98.14998	3	31W	062J09
X-04-190	6-Jul-04	Burnt Lake Drain	50.73817	-97.99503	4	31W	062I12
X-04-191	6-Jul-04	Mud Lake Drain	50.66850	-98.04153	3	31W	062J09
X-04-192	6-Jul-04	Hatchery Drain	50.62219	-98.05953	3	31W	062J09
X-04-193	7-Jul-04	Cloverdale Road Drain	50.17656	-96.85775	3	29	062I02
X-04-194	7-Jul-04	Muckle Creek	50.22569	-96.92531	2	29	062I02
X-04-195	7-Jul-04	Whiskey Ditch	50.25503	-96.87928	3	29	062I07
X-04-196	7-Jul-04	Unnamed tributary to Wavey Creek	50.24103	-97.17042	2	29	062I03
X-04-197	7-Jul-04	Stolars Drain	50.24106	-97.20786	3	29	062I03
X-04-198	7-Jul-04	Jackfish Creek	50.21161	-97.21025	3	29	062I03
X-04-199	8-Jul-04	Unnamed tributary to Lake Winnipeg	50.61075	-96.99561	2	31E	062I10
X-04-200	8-Jul-04	Unnamed tributary to Wavey Creek	50.23606	-97.14514	2	29	062I03
X-04-201	8-Jul-04	Janet Creek	50.18936	-97.22992	3	29	062I03
X-04-202	8-Jul-04	Steele Drain	50.16614	-97.20678	3	29	062I03
X-04-203	13-Jul-04	Piney West Drain	49.07478	-96.04603	3	87	062H01
X-04-204	13-Jul-04	Vassar Drain	49.08852	-95.82160	1	87	052E03
X-04-205	13-Jul-04	Sprague Creek	49.16308	-95.79013	3	87	052E03
X-04-206	13-Jul-04	Unnamed tributary to Whitemouth Lake	49.24697	-95.78717	3	86	052E03
X-04-207	13-Jul-04	Unnamed tributary to Sprague Creek	49.08950	-95.66553	2	87	052E03
X-04-208	14-Jul-04	Sprague Drain	49.02217	-95.56126	3	87	052E03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
X-04-209	14-Jul-04	Mud Creek	49.02341	-95.62791	3	87	052E03
X-04-210	14-Jul-04	West Pine Creek	49.08947	-95.94203	2	87	052E03
X-04-211	14-Jul-04	Whitemouth River	49.28156	-95.61253	3	86	052E03
X-04-212	15-Jul-04	Angle Drain	51.18628	-97.03872	3	106	062P03
X-04-213	15-Jul-04	Petrachek Drain	51.09714	-97.08564	3	106	062P03
X-04-214	15-Jul-04	Shorncliff Drain	51.08256	-97.18064	2	106	062P03
X-04-215	15-Jul-04	Washow Bay Creek	51.03801	-97.20364	3	106	062P03
X-04-216	16-Jul-04	Blind Bay Drain	51.14139	-96.96833	3	106	062P02
X-04-217	16-Jul-04	Unnamed tributary to Kris Johnson Drain	51.11167	-96.88558	1	106	062P02
X-04-218	16-Jul-04	Unnamed tributary to Ben Johnson Drain	51.07506	-96.96806	1	106	062P02
X-04-219	16-Jul-04	Progress Drain	51.05283	-96.99106	3	106	062P02
X-04-220	16-Jul-04	Okno Drain	51.05281	-97.08519	3	106	062P03
X-04-221	16-Jul-04	Icelandic River	50.96478	-97.03881	5	32	062I14
X-04-222	19-Jul-04	Jackfish Creek	50.78533	-100.14486	4	80	062K16
X-04-223	20-Jul-04	Clear Creek	50.68628	-100.17017	3	80	062K09
X-04-224	20-Jul-04	Unnamed tributary to Little Saskatchewan River	50.66894	-100.29931	2	80	062K09
X-04-225	20-Jul-04	Little Saskatchewan River	50.53019	-100.31717	5	82	062K09
X-04-226	20-Jul-04	Unnamed tributary to Rolling River	50.53550	-99.95367	3	81	062J12
X-04-227	20-Jul-04	Whirlpool River	50.65992	-99.85317	5	81	062J12
X-04-228	21-Jul-04	Swanson Creek	50.67778	-99.80328	4	81	062J12
X-04-229	21-Jul-04	Unnamed tributary to Rolling River	50.53586	-99.83067	4	81	062J12
X-04-230	21-Jul-04	Unnamed tributary to Rolling River	50.55447	-99.75286	2	81	062J12
X-04-231	21-Jul-04	Muskrat Creek	50.55372	-99.72328	3	81	062J12
X-04-232	22-Jul-04	Unnamed tributary to Octopus Lake	50.62819	-99.91883	2	80	062J12
X-04-233	22-Jul-04	Rolling River	50.56431	-99.88708	5	81	062J12

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
X-04-234	22-Jul-04	Whirlpool River	50.59055	-99.88620	5	81	062J12
X-04-235	22-Jul-04	Unnamed tributary to Otter Lake	50.51333	-99.80461	3	81	062J12
X-04-236	22-Jul-04	Otter Creek	50.49147	-99.81039	3	81	062J05
X-04-237	22-Jul-04	Little Saskatchewan River	50.35897	-99.90768	6	81	062J05
X-04-238	22-Jul-04	West Spring Creek	50.24475	-99.91997	2	81	062J04
X-04-239	22-Jul-04	Little Saskatchewan River	50.25297	-99.82483	6	81	062J05
X-04-240	26-Jul-04	Atchison Drain	49.70928	-97.26300	3	22	062H11
X-04-241	26-Jul-04	Oak Bluff Drain	49.70336	-97.29964	4	22	062H11
X-04-242	26-Jul-04	Kirk Drain	49.68581	-97.36825	4	22	062H11
X-04-243	26-Jul-04	Kosc Coulee	49.66578	-97.43617	3	22	062H11
X-04-244	26-Jul-04	La Salle River	49.72436	-97.52569	4	23	062H12
X-04-245	26-Jul-04	La Salle River	49.67989	-97.43258	4	22	062H11
X-04-246	26-Jul-04	Baldry Creek	49.77789	-97.15297	3	22	062H14
X-04-247	28-Jul-04	Elm Creek Channel	49.68031	-98.16461	3	21	062G09
X-04-248	28-Jul-04	Elm Creek Channel	49.67958	-98.02808	3	21	062G09
X-04-249	28-Jul-04	La Salle River	49.96181	-98.01017	2	24	062G16
X-04-250	28-Jul-04	Unnamed tributary to Mill Creek	50.01690	-98.00975	3	24	062J01
X-04-251	28-Jul-04	Unnamed tributary to Mill Creek	50.02264	-97.99894	1	24	062I04
X-04-252	28-Jul-04	Unnamed tributary to La Salle River	49.95289	-98.13914	1	24	062G16
X-04-253	30-Jul-04	Seine River Diversion	49.69733	-97.09975	5	6	062H11
X-04-254	30-Jul-04	Seine River Diversion	49.69444	-96.98753	5	8	062H10
X-04-255	30-Jul-04	Seine River Diversion	49.69494	-96.97639	4	8	062H10
X-04-256	3-Aug-04	Seine River	49.79206	-97.04700	4	9	062H14
X-04-257	3-Aug-04	Seine River Diversion	49.65703	-96.63856	4	8	062H10
X-04-258	4-Aug-04	Fishing River	51.46861	-100.25256	4	49	062N08

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X-04-259	5-Aug-04	Swan River	52.22781	-100.99253	6	53	063C02
X-04-260	5-Aug-04	Swan River	52.04094	-101.44189	6	61	063C03
X-04-261	6-Aug-04	Swan River	52.08581	-101.32294	5	61	063C03
X-04-262	6-Aug-04	Fork River	51.50759	-100.01748	5	102	062N09
X-04-263	6-Aug-04	Mossy River	51.44003	-99.95106	6	49	062O05
D-05-001	5-Apr-05	Unnamed tributary to Dauphin Lake	51.39106	-100.01853	2	95	062N08
D-05-002	5-Apr-05	Unnamed tributary to Dauphin Lake	51.35439	-100.01844	2	95	062N08
D-05-003	5-Apr-05	Unnamed tributary to Dauphin Lake	51.27311	-99.88003	2	95	062O05
D-05-004	14-Apr-05	Unnamed tributary to Lake Manitoba	50.21206	-98.69178	2	42	062J02
D-05-005	14-Apr-05	Unnamed tributary to Lake Manitoba	50.38783	-98.67133	2	41	062J07
D-05-006	14-Apr-05	Unnamed tributary to Lake Manitoba	50.44719	-98.69319	1	41	062J07
D-05-007	14-Apr-05	Harcus Drain	50.72706	-98.83336	3	110	062J10
D-05-008	14-Apr-05	North Leifer Drain	50.75711	-98.83531	3	110	062J15
D-05-009	14-Apr-05	Garrioch Creek	50.87239	-98.92111	4	110	062J15
D-05-010	1-May-05	North Snake Creek Pond Outlet	50.44160	-99.47058	3	43	062J06
D-05-011	1-Jun-05	Seine River	49.78269	-97.04454	4	9	062H14
D-05-012	9-Jun-05	Unnamed tributary to Red River	49.76958	-97.16504	2	22	062H14
D-05-013	20-Jul-05	Pembina River	49.26419	-99.47105	5	57	062G06
D-05-014	20-Jul-05	Pelican Lake Enhancement Channel	49.26678	-99.47097	5	59	062G06
D-05-015	20-Jul-05	Pelican Lake Enhancement Channel	49.27395	-99.47241	5	59	062G06
D-05-016	20-Jul-05	Pembina River	49.26365	-99.46445	5	57	062G06
D-05-017	21-Jul-05	Pelican Lake Diversion Channel	49.26677	-99.45235	5	59	062G06
D-05-018	3-Aug-05	Hatchery Drain	50.63402	-97.94788	3	31W	062I12
D-05-019	3-Aug-05	Hatchery Drain	50.63878	-97.90388	3	31W	062I12
D-05-020	4-Aug-05	Unnamed tributary to Willow Creek	50.56619	-97.12833	3	31E	062I11

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D-05-021	4-Aug-05	Unnamed tributary to Bass Drain	50.63086	-97.27371	2	31E	062I11
D-05-022	4-Aug-05	Unnamed tributary to Willow Creek	50.63540	-97.18092	3	31E	062I11
D-05-023	16-Aug-05	Pelican Lake Diversion Channel	49.27403	-99.47236	5	59	062G06
D-05-024	16-Aug-05	Pembina River	49.26367	-99.47133	5	57	062G06
D-05-025	17-Aug-05	Unnamed tributary to Red River	49.97908	-97.05069	2	12	062H14
D-05-026	30-Aug-05	Rat Creek	49.95207	-98.51450	5	35	062G15
D-05-027	30-Aug-05	Rat Creek	49.95111	-98.51716	5	35	062G15
W-05-001	2-May-05	Pembroke Drain	50.28447	-98.96647	4	42	062J07
W-05-002	2-May-05	Jordan Creek Drain	50.38792	-98.97375	4	42	062J07
W-05-003	2-May-05	Unnamed tributary to Big Grass River	50.40291	-98.95155	2	42	062J07
W-05-004	2-May-05	Unnamed tributary to Big Grass River	50.37311	-98.96242	2	42	062J07
W-05-005	2-May-05	Pratt Drain	50.35850	-98.96231	2	42	062J07
W-05-006	2-May-05	Watson Drain	50.34367	-98.96219	2	42	062J07
W-05-007	2-May-05	Crane Drain	50.32903	-98.96206	3	42	062J07
W-05-008	2-May-05	Jumping Deer Creek	50.44292	-99.05414	3	43	062J06
W-05-009	2-May-05	Jumping Deer Creek	50.44722	-99.19606	3	43	062J06
W-05-010	2-May-05	Big Grass River	50.52775	-99.19281	5	43	062J11
W-05-011	2-May-05	Jumping Deer Creek	50.44114	-99.00800	3	43	062J06
W-05-012	3-May-05	Boggy Creek	50.10172	-99.40806	4	40	062J03
W-05-013	3-May-05	Unnamed tributary to Whitemud River	50.18872	-99.56792	3	39	062J04
W-05-014	3-May-05	Unnamed tributary to Brookdale Drain	50.07686	-99.56847	3	40	062J04
W-05-015	3-May-05	Boggy Creek	50.00497	-99.56814	4	40	062J04
W-05-016	3-May-05	Boggy Creek	49.98911	-99.63706	4	40	062G13
W-05-017	4-May-05	Boggy Creek	50.04881	-99.67794	4	40	062J04
W-05-018	4-May-05	Boggy Creek	50.06356	-99.72294	3	40	062J04

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W-05-019	4-May-05	Boggy Creek	50.07833	-99.75033	3	40	062J04
W-05-020	4-May-05	Spring Creek	50.24731	-99.47675	3	39	062J03
W-05-021	4-May-05	Unnamed tributary to Spring Creek	50.26061	-99.47686	2	39	062J06
W-05-022	4-May-05	Unnamed tributary to Spring Creek	50.27533	-99.47811	3	39	062J06
W-05-023	5-May-05	Scott Drain	49.83478	-97.82350	3	24	062H13
W-05-024	5-May-05	Elm River Channel	49.88681	-97.82358	4	24	062H13
W-05-025	5-May-05	Elm River Relief Channel	49.89369	-97.82653	3	24	062H13
W-05-026	5-May-05	Unnamed tributary to Elm River Relief Channel	49.90114	-97.82664	2	24	062H13
W-05-027	5-May-05	West Branch La Salle River	49.94058	-97.80381	3	24	062H13
W-05-028	5-May-05	La Salle River	49.96589	-97.84981	3	24	062H13
W-05-029	5-May-05	La Salle River	49.97106	-97.82678	3	24	062H13
W-05-030	5-May-05	Unnamed tributary to Barickman Coulee	49.92294	-97.61831	3	23	062H13
W-05-031	6-May-05	Barickman Coulee	49.94033	-97.62194	4	23	062H13
W-05-032	6-May-05	Barickman Coulee	49.93475	-97.64881	3	23	062H13
W-05-033	6-May-05	Meakin Creek	49.76849	-97.71004	4	23	062H13
W-05-034	6-May-05	Franzman Drain	49.70944	-97.68669	3	23	062H12
W-05-035	9-May-05	Unnamed tributary to Codner Drain	49.68736	-97.68656	3	23	062H12
W-05-036	9-May-05	Unnamed tributary to Morris River	49.59100	-97.59578	2	19	062H12
W-05-037	9-May-05	Karlenzie Drain	49.60608	-97.59569	2	19	062H12
W-05-038	9-May-05	Unnamed tributary to Morris River	49.60608	-97.59569	2	19	062H12
W-05-039	9-May-05	Confluence of unnamed tributaries and Morris River	49.65042	-97.59567	3	19	062H12
W-05-040	10-May-05	Allison Drain	49.65914	-97.68653	3	19	062H12
W-05-041	10-May-05	Atchison Drain	49.70925	-97.26319	3	22	062H11
W-05-042	10-May-05	Unnamed tributary to La Salle River	49.70907	-97.30420	3	22	062H11
W-05-043	10-May-05	Kirk Drain	49.70809	-97.40036	3	22	062H11

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W-05-044	10-May-05	Domain Drain	49.60597	-97.28808	3	22	062H11
W-05-045	10-May-05	Glenlea Drain	49.63158	-97.18114	2	22	062H11
W-05-046	11-May-05	Sturgeon Creek	49.93083	-97.41239	4	26	062H14
W-05-047	11-May-05	Unnamed tributary to Sturgeon Creek	49.97547	-97.41258	2	26	062H14
W-05-048	11-May-05	Colony Creek	50.03425	-97.43425	3	26	062I03
W-05-049	11-May-05	East Branch Sturgeon Creek	50.13761	-97.58572	3	26	062I04
W-05-050	11-May-05	West Branch Sturgeon Creek	50.13764	-97.63889	3	26	062I04
W-05-051	12-May-05	West Branch Sturgeon Creek	50.07844	-97.60947	4	26	062I04
W-05-052	12-May-05	Grassmere Creek Drain West Branch	50.13039	-97.48911	3	27	062I03
W-05-053	12-May-05	Grassmere Creek Drain East Branch	50.13028	-97.36561	4	27	062I03
W-05-054	12-May-05	Confluence of Glenlea Drain and B - Drain	49.62094	-97.17116	4	22	062H11
W-05-055	16-May-05	Unnamed tributary to Pelican Lake	49.37300	-99.56348	2	59	062G05
W-05-056	16-May-05	Unnamed tributary to Overend Lake	49.39508	-99.67064	3	59	062G05
W-05-057	17-May-05	Orthez Drain	49.39934	-99.72188	3	59	062G05
W-05-058	17-May-05	Orthez Drain	49.41447	-99.72858	3	59	062G05
W-05-059	17-May-05	Orthez Drain	49.35547	-99.82350	3	59	062G05
W-05-060	17-May-05	Unnamed tributary to Pelican Lake	49.34404	-99.63248	2	59	062G05
W-05-061	18-May-05	Unnamed tributary to Overend Lake	49.38481	-99.67861	3	59	062G05
W-05-062	18-May-05	Waskada Creek	49.14839	-100.60064	3	65	062F02
W-05-063	18-May-05	Waskada Creek	49.11828	-100.68997	3	65	062F02
W-05-064	18-May-05	Unnamed tributary flowing into North Dakota	49.01431	-100.65394	3	65	062F02
W-05-065	18-May-05	Unnamed tributary flowing into North Dakota	49.01428	-100.64061	3	65	062F02
W-05-066	18-May-05	Boundary Creek	49.01603	-100.55561	2	65	062F02
W-05-067	19-May-05	Unnamed tributary to Waskada Creek	49.07341	-100.61581	4	65	062F02
W-05-068	19-May-05	Waskada Creek	49.10142	-100.77986	3	65	062F02

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W-05-069	19-May-05	Waskada Creek	49.08819	-100.89836	3	65	062F02
W-05-070	19-May-05	Unnamed tributary to Souris River	49.02126	-100.91432	2	65	062F02
W-05-071	20-May-05	South Lateral	49.59064	-96.86681	4	7	062H10
W-05-072	20-May-05	North Arm Upper Manning Canal	49.58103	-96.71017	3	7	062H10
W-05-073	24-May-05	D - 20 Drain	49.57639	-97.03756	4	6	062H11
W-05-074	24-May-05	Tourond Creek	49.38599	-96.66807	3	6	062H07
W-05-075	24-May-05	Pansy Drain	49.35900	-96.71342	3	6	062H07
W-05-076	24-May-05	Tourond Creek	49.39953	-96.71353	3	6	062H07
W-05-077	24-May-05	South Lateral	49.42353	-96.66825	3	7	062H07
W-05-078	25-May-05	Aubigny Drain	49.41369	-97.26844	3	5	062H06
W-05-079	25-May-05	Lafond Drain	49.28081	-97.27814	3	5	062H06
W-05-080	25-May-05	Marsh River	49.26272	-97.23347	3	5	062H06
W-05-081	25-May-05	Arnaud Drain	49.26622	-97.12450	3	5	062H06
W-05-082	25-May-05	International Boundary Drain	49.01562	-97.41369	3	15	062H03
W-05-083	26-May-05	Deadhorse Creek	49.23353	-97.97867	4	15	062H04
W-05-084	26-May-05	Walkof Coulee	49.15969	-97.97631	3	15	062H04
W-05-085	26-May-05	Unnamed tributary to Rosenheim Drain	49.09125	-97.88606	3	15	062H04
W-05-086	26-May-05	Rosenheim Drain	49.14881	-97.70681	4	15	062H04
W-05-087	26-May-05	Marquette Road Drain	50.07858	-97.73536	2	25	062I04
W-05-088	27-May-05	Scotts Drain	50.07856	-97.74989	2	25	062I04
W-05-089	27-May-05	Long Lake Drain	50.04861	-97.82661	4	25	062I04
W-05-090	27-May-05	Deep Creek	50.06781	-97.88456	3	25	062I04
W-05-091	27-May-05	Unnamed tributary to Long Lake Drain	50.09331	-97.87508	3	25	062I04
W-05-092	27-May-05	Long Lake Drain	50.10806	-97.92947	4	25	062I04
W-05-093	29-May-05	Long Lake Drain	50.07394	-98.03308	4	25	062J01

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W-05-094	31-May-05	Tamarack Creek	52.10678	-101.21861	2	61	063C03
W-05-095	31-May-05	Avonlea Drain	52.17261	-101.21861	3	61	063C03
W-05-096	31-May-05	Hay Creek	52.02761	-101.39456	3	61	063C03
W-05-097	31-May-05	Unnamed tributary to Thunderhill Creek	51.99800	-101.51864	1	61	062N13
W-05-098	31-May-05	Lobstick Creek	51.93900	-101.49808	4	61	062N14
W-05-099	31-May-05	Keillor Creek	51.93908	-101.43719	3	61	062N14
W-05-100	31-May-05	Unnamed tributary to Lobstick Creek	51.90994	-101.53575	2	61	062N13
W-05-101	1-Jun-05	Farden Drain	52.11444	-100.92703	3	53	063C02
W-05-102	1-Jun-05	Cox Drain	52.09036	-100.89388	3	53	063C02
W-05-103	1-Jun-05	Renwer Drain	52.14356	-100.79881	3	53	063C02
W-05-104	1-Jun-05	Unnamed tributary to Sinclair River	52.12181	-100.75117	2	53	063C02
W-05-105	1-Jun-05	Community Pasture Drain	52.31814	-100.90556	3	53	063C07
W-05-106	2-Jun-05	Kitzul Drain	52.34725	-100.87311	3	53	063C07
W-05-107	3-Jun-05	Jeski Drain	52.08517	-101.11730	3	52	063C03
W-05-108	3-Jun-05	Unnamed tributary to East Favel River	52.12367	-101.03708	3	52	063C03
W-05-109	3-Jun-05	Unnamed tributary to East Favel River	52.18031	-101.01340	3	52	063C03
W-05-110	4-Jun-05	Outside Drain	50.01003	-96.95503	3	12	062I02
W-05-111	4-Jun-05	Gunns Creek	50.06468	-96.93758	3	12	062I02
W-05-112	4-Jun-05	Bunns Creek	49.94678	-97.05650	3	12	062H14
W-05-113	6-Jun-05	Janet Creek	50.18942	-97.23006	3	29	062I03
W-05-114	6-Jun-05	Jackfish Creek	50.22686	-97.29914	3	29	062I03
W-05-115	7-Jun-05	Unnamed tributary to Pembina River	49.18036	-98.61261	2	60	062G02
W-05-116	7-Jun-05	Unnamed tributary to Pembina River	49.14903	-98.42494	2	60	062G01
W-05-117	7-Jun-05	Unnamed tributary to Pembina River	49.10192	-98.42494	2	60	062G01
W-05-118	8-Jun-05	Syndicate Creek	49.30542	-98.72897	3	54	062G07

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-05-119	8-Jun-05	Unnamed tributary to Pembina River	49.31039	-98.81786	3	54	062G07
W-05-120	9-Jun-05	First Creek	49.96778	-97.61342	2	26	062H13
W-05-121	9-Jun-05	Second Creek	49.99142	-97.60275	3	26	062H13
W-05-122	9-Jun-05	Colony Creek	49.95969	-97.33136	4	26	062H14
W-05-123	14-Jun-05	Unnamed tributary to Bass Drain	50.59553	-97.26622	1	31E	062I11
W-05-124	14-Jun-05	Unnamed tributary to Bass Drain	50.61433	-97.29694	2	31E	062I11
W-05-125	14-Jun-05	Unnamed tributary to Bass Drain	50.62558	-97.30267	1	31E	062I11
W-05-126	14-Jun-05	Unnamed tributary to Hatchery Drain	50.63931	-97.96447	2	31W	062I12
W-05-127	14-Jun-05	Hatchery Drain	50.63428	-97.94778	3	31W	062I12
W-05-128	14-Jun-05	Unnamed tributary to Burnt Lake Drain	50.70914	-97.87856	2	31W	062I12
W-05-129	15-Jun-05	Unnamed tributary to Icelandic River	50.93531	-97.32311	2	32	062I14
W-05-130	15-Jun-05	Unnamed tributary to Icelandic River	51.00133	-97.36833	3	32	062P03
W-05-131	15-Jun-05	Sylvan Drain	51.02350	-97.41508	3	32	062P03
W-05-132	15-Jun-05	Unnamed tributary to Shurkas Drain	50.97933	-97.52675	3	32	062I13
W-05-133	15-Jun-05	Unnamed tributary to Icelandic River	50.91950	-97.53719	3	32	062I13
W-05-134	15-Jun-05	Silver Drain	50.83267	-97.22781	3	32	062I14
W-05-135	16-Jun-05	Unnamed tributary to Brokenhead Swamp	49.70411	-96.26550	2	88	062H09
W-05-136	16-Jun-05	Unnamed tributary to St. Labre Bog	49.31018	-96.07958	2	85	062H08
W-05-137	16-Jun-05	Unnamed tributary to St. Labre Bog	49.31010	-96.04616	2	85	062H08
W-05-138	16-Jun-05	Unnamed tributary to St. Labre Bog	49.31111	-95.99988	2	85	0.0052
W-05-139	17-Jun-05	Unnamed tributary to St. Labre Bog	49.31102	-95.94611	2	85	0.0052
W-05-140	17-Jun-05	Unnamed tributary to St. Clare Bog	49.29873	-95.82503	2	85	0.0052
W-05-141	20-Jun-05	Second Creek	49.93400	-97.52911	3	26	062H13
W-05-142	20-Jun-05	Overhill Drain	49.82779	-98.36941	3	100	062G16
W-05-143	20-Jun-05	Unnamed tributary to Assiniboine River	49.70964	-98.74192	2	100	062G10

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-05-144	20-Jun-05	Unnamed tributary to Assiniboine River	49.74797	-98.78511	2	100	062G10
W-05-145	20-Jun-05	Rossendale Drain	49.80581	-98.50586	3	100	062G15
W-05-146	21-Jun-05	Bosshill Creek	49.85806	-101.07692	4	75	062F14
W-05-147	21-Jun-05	Gopher Creek	49.90867	-101.26356	3	75	062F14
W-05-148	21-Jun-05	Little Scallion Creek	49.89017	-100.94283	3	75	062F15
W-05-149	22-Jun-05	Wythes Creek	50.11614	-101.06592	3	78	062K03
W-05-150	22-Jun-05	Unnamed tributary to Assiniboine River	50.13142	-101.07644	2	78	062K03
W-05-151	22-Jun-05	Unnamed tributary to Assiniboine River	50.15711	-101.08061	3	78	062K03
W-05-152	22-Jun-05	Unnamed tributary to Assiniboine River	50.17717	-101.08289	3	78	062K03
W-05-153	22-Jun-05	Unnamed tributary to Assiniboine River	50.15575	-101.28700	2	78	062K03
W-05-154	22-Jun-05	Scissor Creek	50.27886	-101.29194	4	78	062K06
W-05-155	23-Jun-05	Unnamed tributary to Snake Creek	50.48519	-101.13108	3	78	062K06
W-05-156	23-Jun-05	Unnamed tributary to Snake Creek	50.47800	-101.13097	3	78	062K06
W-05-157	23-Jun-05	Confluence of unnamed tributary and Snake Creek	50.48170	-101.15066	4	78	062K06
W-05-158	23-Jun-05	Unnamed tributary to Silver Creek	50.70418	-101.15978	2	79	062K11
W-05-159	23-Jun-05	East Silver Creek	50.76281	-101.02072	3	79	062K14
W-05-160	23-Jun-05	East Silver Creek	50.69767	-101.05572	3	79	062K11
W-05-161	23-Jun-05	Silver Creek	50.71236	-101.18161	3	79	062K11
W-05-162	23-Jun-05	Silver Creek	50.65331	-101.20086	3	79	062K11
W-05-163	24-Jun-05	Unnamed tributary to Overhill Drain	49.83411	-98.33002	1	100	062G16
W-05-164	27-Jun-05	West Pine Creek	49.11036	-95.95664	2	87	0.052
W-05-165	27-Jun-05	East Pine Creek	49.11717	-95.88944	2	87	0.052
W-05-166	27-Jun-05	Unnamed tributary to Sprague Creek	49.13303	-95.83203	2	87	0.052
W-05-167	28-Jun-05	Unnamed tributary to Rat River	49.22267	-96.12611	2	3	062H01
W-05-168	11-Jul-05	Unnamed tributary to Oak River	50.30550	-100.48436	4	72	062K08

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-05-169	12-Jul-05	Conjuring Creek	50.80092	-101.32933	3	92	062K14
W-05-170	12-Jul-05	Bell Creek	50.96033	-101.45703	2	92	062K14
W-05-171	12-Jul-05	Blackbird Creek	50.94511	-101.49530	3	92	062K14
W-05-172	12-Jul-05	Big Boggy Creek	51.40622	-101.51728	4	92	062N05
W-05-173	12-Jul-05	Unnamed tributary to Shell River	51.55119	-101.40475	3	91	062N11
W-05-174	18-Jul-05	Boundary Creek Drain	50.50700	-97.09517	4	31E	062I11
W-05-175	18-Jul-05	Boundary Drain	50.44794	-97.11364	3	30	062I06
W-05-176	18-Jul-05	Unnamed tributary to Lake Winnipeg	50.64011	-97.07947	3	31E	062I11
W-05-177	19-Jul-05	Unnamed tributary to Lake Winnipeg	50.63986	-97.06167	3	31E	062I11
W-05-178	19-Jul-05	Meleb Drain	50.68431	-97.06486	3	31E	062I11
W-05-179	19-Jul-05	Meleb Drain	50.69164	-97.08806	3	31E	062I11
W-05-180	19-Jul-05	Meleb Drain	50.68436	-97.14219	3	31E	062I11
W-05-181	19-Jul-05	Fish Lake Drain	50.74342	-97.24019	3	31E	062I11
W-05-182	19-Jul-05	Unnamed tributary to Lake Winnipeg	50.75794	-97.05736	2	31E	062I14
W-05-183	19-Jul-05	Unnamed tributary to Lake Winnipeg	50.81689	-97.03317	2	31E	062I14
W-05-184	20-Jul-05	Marcynuiks Drain	51.44994	-97.58106	2	33	062P05
W-05-185	20-Jul-05	Unnamed tributary to Fisher River	51.22919	-97.74333	3	33	062P04
W-05-186	25-Jul-05	Pine Creek	50.67685	-95.97487	1	96	052L12
W-05-187	25-Jul-05	Pine Creek	50.67778	-95.92272	2	96	052L12
W-05-188	25-Jul-05	Main Drain No. 2	50.51231	-96.28369	3	14	062I09
W-05-189	26-Jul-05	Hiebert Drain	50.41514	-96.30661	3	14	062I08
W-05-190	26-Jul-05	Unnamed tributary to Main Drain No. 1	50.35614	-96.28297	3	14	062I08
W-05-191	26-Jul-05	T - Drain	50.31192	-96.44517	3	10	062I08
W-05-192	26-Jul-05	Unnamed tributary to Brokenhead River	50.26761	-96.42183	2	10	062I08
W-05-193	26-Jul-05	C - Drain	50.23761	-96.42964	2	10	062I01

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W-05-194	27-Jul-05	W - Drain	50.22289	-96.42875	3	10	062I01
W-05-195	27-Jul-05	Unnamed tributary to Brokenhead River	50.09100	-96.40619	2	10	062I01
W-05-196	27-Jul-05	Unnamed tributary to Bachman East Drain	50.10561	-96.36014	2	10	062I01
W-05-197	27-Jul-05	Boggy Creek	50.23500	-95.88561	3	96	052L04
W-05-198	28-Jul-05	Unnamed tributary to Winnipeg River	50.24477	-96.06278	2	96	062I01
W-05-199	2-Aug-05	Atchison Drain	49.77669	-97.31494	2	22	062H14
W-05-200	2-Aug-05	Lot 16 Drain	49.79767	-97.26433	3	22	062H14
W-05-201	2-Aug-05	Oak Bluff Drain	49.76808	-97.34533	3	22	062H14
W-05-202	2-Aug-05	Kirk Drain	49.76886	-97.41347	3	22	062H14
W-05-203	3-Aug-05	Kellner Drain	49.90061	-95.94822	2	83	052E12
W-05-204	3-Aug-05	Unnamed tributary to Whitemouth River	49.98886	-95.99892	3	83	052E12
W-05-205	3-Aug-05	Bog River	50.06544	-95.98078	3	83	052L04
W-05-206	3-Aug-05	Unnamed tributary to Lac Du Bonnet	50.23619	-96.03856	2	96	062I01
W-05-207	8-Aug-05	Buffalo Creek	49.20250	-97.39175	4	15	062H03
W-05-208	10-Aug-05	Unnamed tributary to St. Labre Bog	49.38581	-96.08506	2	85	062H08
W-05-209	10-Aug-05	Unnamed tributary to St. Labre Bog	49.38348	-96.05265	2	85	062H08
W-05-210	19-May-05	Unnamed tributary to Antler River	49.04433	-101.18306	3	65	062F03
W-05-211	31-May-05	Silent Creek	52.06844	-101.32286	3	61	063C03
X-05-001	27-Apr-05	Main Drain	49.13325	-97.14244	4	2	062H03
X-05-002	27-Apr-05	Jordan River	49.12181	-96.89823	3	2	062H02
X-05-003	29-Apr-05	Manness Drain	49.60594	-97.37429	3	20	062H11
X-05-004	29-Apr-05	Manness Drain	49.57653	-97.36786	3	20	062H11
X-05-005	29-Apr-05	Bamland Drain	49.65048	-97.47648	3	20	062H11
X-05-006	29-Apr-05	Grill Drain	49.62058	-97.45906	3	20	062H11
X-05-007	29-Apr-05	King Drain	49.62844	-97.41300	4	20	062H11

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X-05-008	29-Apr-05	Bolen Drain	49.59100	-97.43586	3	20	062H11
X-05-009	29-Apr-05	Parker Drain	49.59869	-97.45908	3	20	062H11
X-05-010	3-May-05	Unnamed tributary to Morris River	49.59143	-97.59757	2	19	062H12
X-05-011	3-May-05	11 - A Drain	49.62064	-97.64114	4	19	062H12
X-05-012	3-May-05	Unnamed tributary to Morris River	49.65061	-97.59586	2	19	062H12
X-05-013	3-May-05	Castor Drain	49.63569	-97.61836	2	19	062H12
X-05-014	3-May-05	Allison Drain	49.65032	-97.64108	3	19	062H12
X-05-015	3-May-05	Elm Creek Channel	49.68720	-98.34610	2	22	062G09
X-05-016	3-May-05	Elm Creek Channel	49.67998	-98.25515	2	22	062G09
X-05-017	3-May-05	Elm Creek Channel	49.68003	-98.22343	2	22	062G09
X-05-018	4-May-05	Elm River	49.92011	-98.14742	3	24	062G16
X-05-019	4-May-05	Crooked Lake Channel	49.87172	-98.14178	3	21	062G16
X-05-020	4-May-05	Unnamed tributary to Crooked Lake Channel	49.85717	-98.14181	2	21	062G16
X-05-021	4-May-05	Kelvin Drain	49.84706	-98.14181	3	21	062G16
X-05-022	4-May-05	Crooked Lake Channel	49.83303	-98.05108	4	21	062G16
X-05-023	4-May-05	Boundary Drain	49.79808	-98.02394	3	21	062G16
X-05-024	5-May-05	Elm Creek Channel	49.81247	-97.99847	5	21	062H13
X-05-025	5-May-05	Unnamed tributary to Elm Creek Channel	49.76862	-97.89147	3	23	062H13
X-05-026	5-May-05	Elm Creek Channel	49.67619	-98.05094	3	21	062G09
X-05-027	6-May-05	Main Drain	49.08931	-97.10008	4	2	062H03
X-05-028	6-May-05	Harlow Drain	49.14072	-97.10722	3	2	062H03
X-05-029	6-May-05	Stewart Drain	49.15064	-97.01036	3	2	062H03
X-05-030	10-May-05	North Branch Jordan River	49.16177	-96.89996	2	2	062H02
X-05-031	10-May-05	Harlow Drain	49.09462	-97.01020	3	2	062H03
X-05-032	11-May-05	Dubas Creek	50.13681	-96.79544	3	11	062I02

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X-05-033	11-May-05	Melrose Drain	50.05315	-96.79610	3	11	062I02
X-05-034	11-May-05	Satans Creek	50.00319	-96.71794	3	11	062I02
X-05-035	11-May-05	Satans Creek	49.99658	-96.70531	3	11	062H15
X-05-036	11-May-05	Hazelridge Drain	49.95150	-96.70544	3	11	062H15
X-05-037	12-May-05	Hazelridge Drain	49.95200	-96.65983	3	11	062H15
X-05-038	12-May-05	Hazelridge Drain	49.95881	-96.67997	3	11	062H15
X-05-039	12-May-05	Sapton Drain	50.01789	-96.70497	3	11	062I02
X-05-040	12-May-05	Dubas Creek	50.09859	-96.75004	3	11	062I02
X-05-041	12-May-05	Swede Drain	49.91506	-96.77392	3	11	062H15
X-05-042	12-May-05	Edie Creek	49.84053	-96.62567	3	11	062H15
X-05-043	12-May-05	Cooks Creek	49.79114	-96.57016	3	11	062H15
X-05-044	13-May-05	Lower Youville Drain	49.75353	-96.97953	3	9	062H15
X-05-045	13-May-05	Fish Creek	49.73151	-96.72903	3	9	062H10
X-05-046	13-May-05	Fish Creek	49.74268	-96.61623	2	9	062H10
X-05-047	13-May-05	Inter - Municipal Drain	49.70792	-96.69142	3	9	062H10
X-05-048	14-May-05	Prairie Centre Line Drain	49.84166	-96.93541	3	9	062H15
X-05-049	14-May-05	South Bibeau Drain	49.85640	-96.93536	2	9	062H15
X-05-050	14-May-05	North Bibeau Drain	49.87113	-96.93529	2	9	062H15
X-05-051	14-May-05	Old Prairie Grove Drain	49.79701	-97.01288	3	9	062H14
X-05-052	14-May-05	Prairie Station Road Drain	49.78250	-96.84386	2	9	062H15
X-05-053	15-May-05	Bagot Drain	50.01931	-98.56258	3	36	062J02
X-05-054	15-May-05	Westbourne Drain	50.03403	-98.56044	4	36	062J02
X-05-055	15-May-05	Bagot Drain	50.00206	-98.60625	3	36	062J02
X-05-056	15-May-05	Image Creek	49.91597	-98.77031	3	36	062G15
X-05-057	15-May-05	Image Creek	49.92058	-98.76625	3	36	062G15

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X-05-058	16-May-05	Squirrel Creek East Branch	49.89706	-98.93993	3	37	062G15
X-05-059	16-May-05	Squirrel Creek East Branch	49.88324	-98.91620	3	37	062G15
X-05-060	16-May-05	Squirrel Creek East Branch	49.82750	-98.90539	2	37	062G15
X-05-061	16-May-05	Unnamed tributary to Squirrel Creek East Branch	49.87159	-98.94632	3	37	062G15
X-05-062	16-May-05	Unnamed tributary to Squirrel Creek East Branch	49.88617	-98.94451	3	37	062G15
X-05-063	16-May-05	Squirrel Creek West Branch	49.93228	-99.10286	2	38	062G14
X-05-064	16-May-05	Beaver Creek	49.97372	-98.78950	4	36	062G15
X-05-065	16-May-05	Beaver Creek	49.93908	-98.88119	3	36	062G15
X-05-066	17-May-05	Anderson Drain	49.93111	-98.83386	3	36	062G15
X-05-067	17-May-05	Image Creek	49.98617	-98.72092	3	36	062G15
X-05-068	17-May-05	Bueckert Drain	49.88158	-98.61978	3	35	062G15
X-05-069	17-May-05	Rat Creek	49.84841	-98.61985	3	35	062G15
X-05-070	18-May-05	Rat Creek	49.85700	-98.61414	3	35	062G15
X-05-071	18-May-05	Bueckert Drain	49.87342	-98.66572	3	35	062G15
X-05-072	18-May-05	Bagot Creek	49.88683	-98.72225	4	35	062G15
X-05-073	18-May-05	Unnamed tributary to Rat Creek	49.98975	-98.45183	3	35	062G16
X-05-074	18-May-05	Unnamed tributary to Rat Creek	49.98989	-98.44025	3	35	062G16
X-05-075	18-May-05	Mount Pleasant Drain	50.01921	-98.42265	3	35	062J01
X-05-076	18-May-05	Rignold Drain	50.01956	-98.49171	3	35	062J01
X-05-077	18-May-05	Rat Creek	49.93071	-98.55756	5	35	062G15
X-05-078	19-May-05	Bruneau Drain	50.07292	-97.04814	3	28	062I03
X-05-079	19-May-05	Parks Creek	50.09314	-97.09790	3	28	062I03
X-05-080	19-May-05	Parks Creek	50.04770	-97.06803	4	28	062I03
X-05-081	19-May-05	Wavey Creek	50.11178	-97.23006	4	29	062I03
X-05-082	19-May-05	Janet Creek	50.19664	-97.29425	3	29	062I03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
X-05-083	19-May-05	Jackfish Creek	50.22711	-97.29917	3	29	062I03
X-05-084	20-May-05	Janet Creek	50.18933	-97.22986	3	29	062I03
X-05-085	20-May-05	Jackfish Creek	50.21167	-97.23019	3	29	062I03
X-05-086	20-May-05	Jackfish Creek	50.30053	-97.34044	3	29	062I06
X-05-087	20-May-05	Janet Creek	50.25625	-97.35561	3	29	062I06
X-05-088	24-May-05	Main Drain No. 1	50.42966	-96.32975	4	14	062I08
X-05-089	25-May-05	Main Drain No. 1	50.48850	-96.33567	4	14	062I08
X-05-090	25-May-05	Main Drain No. 2	50.39917	-96.09847	2	14	062I08
X-05-091	25-May-05	Sand River	49.27208	-96.28995	3	3	062H08
X-05-092	25-May-05	Rat River	49.22872	-96.48673	4	3	062H01
X-05-093	27-May-05	Anderson Creek	49.36949	-97.54971	3	17	062H05
X-05-094	27-May-05	Anderson Creek	49.36922	-97.45903	3	17	062H06
X-05-095	30-May-05	4N Drain	49.43883	-97.52719	3	17	062H05
X-05-096	30-May-05	4N Drain	49.44417	-97.70811	3	17	062H05
X-05-097	30-May-05	4N Drain	49.44415	-97.84347	3	17	062H05
X-05-098	30-May-05	4N Drain	49.45814	-97.86603	3	17	062H05
X-05-099	31-May-05	4N Drain	49.46840	-97.93363	3	17	062H05
X-05-100	31-May-05	Graham Creek	49.38451	-97.81437	4	17	062H05
X-05-101	31-May-05	Graham Creek	49.35061	-97.95656	4	17	062H05
X-05-102	31-May-05	Unnamed tributary to Graham Creek	49.36862	-98.04773	3	17	062G08
X-05-103	31-May-05	Tobacco Creek	49.42382	-98.11493	4	17	062G08
X-05-104	31-May-05	Tobacco Creek	49.43603	-98.20525	3	17	062G08
X-05-105	1-Jun-05	Thornhill Coulee	49.24169	-98.11436	3	16	062G01
X-05-106	1-Jun-05	Thornhill Coulee	49.23257	-98.18254	3	16	062G01
X-05-107	1-Jun-05	South Tobacco Creek	49.39525	-98.22802	3	17	062G08

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
X-05-108	1-Jun-05	Unnamed tributary to Tobacco Creek	49.41181	-98.31839	1	17	062G08
X-05-109	1-Jun-05	Tobacco Creek	49.42647	-98.31831	2	17	062G08
X-05-110	2-Jun-05	Shannon Creek	49.29964	-98.36381	3	16	062G08
X-05-111	2-Jun-05	South Tobacco Creek	49.36361	-98.33984	3	17	062G08
X-05-112	2-Jun-05	Unnamed tributary to Tobacco Creek	49.45800	-98.28667	3	17	062G08
X-05-113	2-Jun-05	Graham Creek	49.37683	-98.13733	3	17	062G08
X-05-114	2-Jun-05	Unnamed tributary to Graham Creek	49.33336	-98.18258	3	17	062G08
X-05-115	2-Jun-05	North Shannon Creek	49.30272	-98.04692	3	16	062G08
X-05-116	2-Jun-05	Unnamed tributary to North Shannon Creek	49.31065	-97.93363	3	16	062H05
X-05-117	2-Jun-05	Kronsgart Drain	49.28089	-97.46181	3	16	062H06
X-05-118	6-Jun-05	Lewis Drain	49.48786	-97.59467	2	18	062H05
X-05-119	6-Jun-05	Roblin Drain	49.51728	-98.10175	3	18	062G09
X-05-120	6-Jun-05	Roblin Drain	49.50803	-98.09206	3	18	062G09
X-05-121	6-Jun-05	Roseisle Drain	49.48756	-98.34164	3	18	062G08
X-05-122	6-Jun-05	Roseisle Creek	49.47114	-98.45390	4	18	062G08
X-05-123	7-Jun-05	7 - 7W Drain	49.53873	-98.34349	3	18	062G09
X-05-124	7-Jun-05	Unnamed tributary to Boyne River	49.66261	-98.55154	3	18	062G10
X-05-125	7-Jun-05	Boyne River	49.62100	-98.69283	3	18	062G10
X-05-126	7-Jun-05	Unnamed tributary to Boyne River	49.53222	-98.82569	3	18	062G10
X-05-127	9-Jun-05	Crystal Creek	49.11853	-98.92981	3	56	062G02
X-05-128	9-Jun-05	Unnamed tributary to Cypress Creek	49.16256	-99.08767	4	56	062G03
X-05-129	10-Jun-05	McTavish Drain	49.42889	-97.30178	3	18	062H06
X-05-130	10-Jun-05	Unnamed tributary to Taylor Drain	49.49519	-97.28966	3	18	062H06
X-05-131	13-Jun-05	South Boggy Creek	49.91596	-99.68198	3	99	062G13
X-05-132	13-Jun-05	West Branch Willow Creek	49.91606	-99.81381	3	99	062G13

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
X-05-133	13-Jun-05	East Branch Willow Creek	49.93461	-99.77431	3	99	062G13
X-05-134	13-Jun-05	West Branch Willow Creek	50.04894	-99.85769	3	99	062J04
X-05-135	13-Jun-05	Unnamed tributary to West Branch Willow Creek	49.96028	-99.90503	3	99	062G13
X-05-136	13-Jun-05	Unnamed tributary to West Branch Willow Creek	49.93804	-99.95778	3	99	062G13
X-05-137	14-Jun-05	Little Souris River	49.75183	-99.91536	4	98	062G13
X-05-138	14-Jun-05	Unnamed tributary to Little Souris River	49.78764	-99.91625	3	98	062G13
X-05-139	14-Jun-05	Unnamed tributary to Little Souris River	49.78350	-100.00764	3	98	062F16
X-05-140	14-Jun-05	Little Souris River	49.68017	-100.06210	3	98	062F09
X-05-141	14-Jun-05	Five Mile Creek	49.66506	-99.71475	3	98	062G12
X-05-142	15-Jun-05	Black Creek	49.61711	-99.87100	3	69	062G12
X-05-143	15-Jun-05	Unnamed tributary to Black Creek	49.59447	-99.73436	3	69	062G12
X-05-144	15-Jun-05	Unnamed tributary to Souris River	49.44703	-99.78968	3	69	062G05
X-05-145	15-Jun-05	Unnamed tributary to Souris River	49.41296	-99.85779	3	69	062G05
X-05-146	16-Jun-05	Unnamed tributary to Pembina River	49.39919	-98.83250	3	55	062G07
X-05-147	17-Jun-05	Dry River	49.33256	-99.02059	3	55	062G06
X-05-148	17-Jun-05	Pilot Creek	49.21954	-98.88434	3	55	062G02
X-05-149	21-Jun-05	Jackfish Creek	49.10235	-99.80224	3	58	062G04
X-05-150	21-Jun-05	Long River	49.11439	-99.81772	3	58	062G04
X-05-151	21-Jun-05	Long River	49.16617	-99.75006	4	58	062G04
X-05-152	21-Jun-05	Unnamed tributary to Jackfish Creek	49.08774	-99.69738	3	58	062G04
X-05-153	21-Jun-05	Stony Creek	49.08786	-99.66978	3	58	062G04
X-05-154	21-Jun-05	Stony Creek	49.10953	-99.61592	3	58	062G04
X-05-155	22-Jun-05	Gimby Creek	49.06189	-99.61653	3	58	062G04
X-05-156	22-Jun-05	Gimby Creek	49.01419	-99.63494	3	58	062G04
X-05-157	22-Jun-05	Unnamed tributary to Badger Creek	49.03019	-99.48142	3	58	062G03

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Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
X-05-158	22-Jun-05	Unnamed tributary to Badger Creek	49.06231	-99.21161	3	58	062G03
X-05-159	23-Jun-05	Unnamed tributary to Elgin Creek	49.43883	-100.28564	3	68	062F08
X-05-160	23-Jun-05	Unnamed tributary to Elgin Creek	49.43494	-100.30797	3	68	062F08
X-05-161	23-Jun-05	Unnamed tributary to Elgin Creek	49.45273	-100.33055	3	68	062F08
X-05-162	23-Jun-05	Elgin Creek	49.53272	-100.27288	4	68	062F09
X-05-163	23-Jun-05	Unnamed tributary to Souris River	49.53281	-100.16100	3	68	062F09
X-05-164	23-Jun-05	Unnamed tributary to Souris River	49.63230	-100.25747	3	68	062F09
X-05-165	27-Jun-05	Unnamed tributary to Whitewater Lake	49.14680	-100.33566	3	68	062F01
X-05-166	27-Jun-05	Glen Creek	49.14646	-100.36899	2	68	062F01
X-05-167	28-Jun-05	Unnamed tributary to Cherry Creek	49.18906	-100.10444	3	68	062F01
X-05-168	28-Jun-05	Unnamed tributary to Cherry Creek	49.13150	-100.14515	3	68	062F01
X-05-169	28-Jun-05	Unnamed tributary to Zetterstrom Creek	49.14667	-100.17328	2	68	062F01
X-05-170	28-Jun-05	Unnamed tributary to Turtlehead Creek	49.08783	-100.40503	3	68	062F01
X-05-171	28-Jun-05	Unnamed tributary to Whitewater Lake	49.13164	-100.27933	3	68	062F01
X-05-172	29-Jun-05	Graham Creek	49.25031	-101.12141	3	64	062F06
X-05-173	29-Jun-05	Jackson Creek	49.35903	-101.12144	2	64	062F06
X-05-174	30-Jun-05	Stony Creek	49.39814	-101.09917	3	63	062F06
X-05-175	30-Jun-05	Unnamed tributary to Stony Creek	49.38855	-101.09919	3	63	062F06
X-05-176	4-Jul-05	Stony Creek	49.69450	-101.34064	3	63	062F11
X-05-177	4-Jul-05	Stony Creek	49.77258	-101.39519	3	63	062F14
X-05-178	5-Jul-05	Unnamed tributary to Oak Creek	49.38414	-99.12028	3	70	062G06
X-05-179	5-Jul-05	Unnamed tributary to Oak Creek	49.35791	-99.04293	2	70	062G06
X-05-180	5-Jul-05	Unnamed tributary to Oak Creek	49.41886	-99.07803	2	70	062G06
X-05-181	6-Jul-05	Ross Creek	50.32981	-97.18265	3	30	062I06
X-05-182	6-Jul-05	Crescent Lake Overflow	50.35929	-97.18277	3	30	062I06

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X-05-183	6-Jul-05	Ross Creek	50.34467	-97.28536	3	30	062I06
X-05-184	6-Jul-05	Boundary Drain	50.44814	-97.11367	3	30	062I06
X-05-185	7-Jul-05	Tugela Creek	50.44929	-96.95193	3	30	062I07
X-05-186	7-Jul-05	Fisher Drain	50.34392	-96.92894	3	30	062I07
X-05-187	7-Jul-05	Kilkenny Drain	51.03822	-97.79044	3	33	062P04
X-05-188	7-Jul-05	Blind Creek	51.12675	-97.80772	3	33	062P04
X-05-189	8-Jul-05	Unnamed tributary to Lake Manitoba	50.41828	-97.94642	3	109	062I05
X-05-190	11-Jul-05	Wolfe Creek	50.46836	-100.57689	2	72	062K07
X-05-191	12-Jul-05	Unnamed tributary to Shell River	51.50781	-101.37669	3	91	062N11
X-05-192	13-Jul-05	Valley River	51.59204	-100.83935	2	93	062N10
X-05-193	13-Jul-05	Garland River	51.65898	-100.63445	3	103	062N10
X-05-194	13-Jul-05	South Garland Creek	51.62405	-100.48668	4	103	062N09
X-05-195	13-Jul-05	Stoney Creek	51.47778	-100.43888	2	49	062N08
X-05-196	14-Jul-05	Unnamed tributary to Mink Creek	51.44608	-100.25256	3	49	062N08
X-05-197	14-Jul-05	Unnamed tributary to Mink Creek	51.36151	-100.20517	3	49	062N08
X-05-198	14-Jul-05	Mink Creek	51.37067	-100.58016	3	49	062N07
X-05-199	14-Jul-05	West Wilson River	51.03700	-100.68750	3	48	062N02
X-05-200	15-Jul-05	Mitchell Creek	51.06656	-100.76623	2	48	062N02
X-05-201	3-Aug-05	Little Pembina River	49.13200	-99.91714	3	57	062G04
X-05-202	3-Aug-05	Unnamed tributary to Little Pembina River	49.13202	-99.90420	2	57	062G04
X-05-203	3-Aug-05	North Pembina River	49.19723	-99.[illegible]7854	4	57	062G04
X-05-204	4-Aug-05	Unnamed tributary to Netley Creek	50.50693	-97.34049	2	30	062I11
X-05-205	4-Aug-05	Unnamed tributary to Netley Creek	50.49224	-97.39059	2	30	062I06
X-05-206	4-Aug-05	Unnamed tributary to Netley Creek	50.50689	-97.29284	2	30	062I11
X-05-207	4-Aug-05	Cochrane Creek	50.39789	-96.97014	3	30	062I07

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X-05-208	4-Aug-05	Ekhart Drain	50.12315	-97.45950	3	27	062I03
X-05-209	16-Jun-05	Unnamed Tributary to Mary Jane Creek	49.25000	-98.67000	1	54	062G07
X-05-210	22-Jun-05	Gimby Creek	49.08047	-99.52628	3	58	062G04
D-06-001	6-Jul-06	Jackfish Creek	51.07388	-99.96062	4	47	062O04
W-06-001	9-May-06	Unnamed tributary to Dauphin Lake	51.39243	-99.98009	2	95	062O05
W-06-002	9-May-06	Unnamed tributary to Dauphin Lake	51.39122	-100.01802	2	95	062N08
W-06-003	9-May-06	Wolfe Creek	50.54119	-100.51362	2	72	062K10
W-06-004	9-May-06	Oak River	50.55568	-100.54662	3	72	062K10
W-06-005	9-May-06	Unnamed tributary to Minnewasta Creek	50.43219	-100.93307	2	74	062K07
W-06-006	10-May-06	Oak River	50.50592	-100.57022	3	72	062K10
W-06-007	10-May-06	Oak River	50.47646	-100.58727	3	72	062K07
W-06-008	10-May-06	Unnamed tributary to Oak River	50.28474	-100.49911	4	72	062K08
W-06-009	10-May-06	Arrow River	50.32896	-100.81869	4	74	062K07
W-06-010	10-May-06	Arrow River	50.34209	-100.83066	3	74	062K07
W-06-011	11-May-06	Bosshill Creek	49.97514	-101.27491	3	75	062F14
W-06-012	11-May-06	Gopher Creek	49.92355	-101.32630	3	75	062F14
W-06-013	11-May-06	Bosshill Creek	49.98716	-101.37812	3	75	062F14
W-06-014	11-May-06	Gopher Creek	49.93187	-101.37842	3	75	062F14
W-06-015	11-May-06	Stony Creek	49.73935	-101.37824	3	63	062F11
W-06-016	11-May-06	Medora Creek	49.26153	-100.69221	4	66	062F07
W-06-017	12-May-06	Medora Creek	49.20846	-100.53323	4	66	062F02
W-06-018	12-May-06	Waskada Creek	49.11823	-100.69012	3	65	062F02
W-06-019	15-May-06	Confluence of unnamed tributary to Lake Manitoba	50.35737	-97.94472	3	109	062I05
W-06-020	15-May-06	Unnamed tributary to Shoal Lake	50.30147	-97.69770	3	109	062I05
W-06-021	16-May-06	Unnamed tributary to Scott Coulee	49.85700	-97.84700	2	24	062H13

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W-06-022	16-May-06	Elm River Channel	49.88640	-97.84699	4	24	062H13
W-06-023	16-May-06	La Salle River	49.98000	-97.94100	3	24	062H13
W-06-024	16-May-06	Long Lake Drain	50.07863	-98.12499	3	25	062J01
W-06-025	17-May-06	Hatchery Drain	50.62218	-98.04165	3	31W	062J09
W-06-026	17-May-06	Hatchery Drain	50.62312	-98.08789	3	31W	062J09
W-06-027	17-May-06	Hatchery Drain	50.62400	-97.98800	3	31W	062I12
W-06-028	17-May-06	Hatchery Drain	50.63400	-97.94800	3	31W	062I12
W-06-029	23-May-06	Tobacco Creek	49.40518	-97.59474	5	17	062H05
W-06-030	23-May-06	4N Drain	49.44400	-97.59500	3	17	062H05
W-06-031	23-May-06	Tobacco Creek	49.39894	-97.70776	5	17	062H05
W-06-032	24-May-06	Rex Creek	49.60600	-98.93200	4	71	062G10
W-06-033	24-May-06	Pellys Lake	49.59300	-98.77900	3	18	062G10
W-06-034	24-May-06	Pellys Lake	49.55000	-98.84700	3	18	062G10
W-06-035	24-May-06	Cypress River	49.43300	-98.59100	3	71	062G07
W-06-036	25-May-06	Cypress River	49.45031	-98.63631	3	71	062G07
W-06-037	25-May-06	Somerset Creek	49.38500	-98.67300	2	71	062G07
W-06-038	26-May-06	Roseisle Creek	49.48000	-98.42406	4	18	062G08
W-06-039	26-May-06	Unnamed tributary to Crystal Creek	49.07966	-98.87388	3	56	062G02
W-06-040	26-May-06	Crystal Creek	49.06371	-98.87382	3	56	062G02
W-06-041	26-May-06	Unnamed tributary to Cypress Creek	49.01500	-98.88300	2	56	062G02
W-06-042	26-May-06	Cypress Creek	49.01500	-98.92600	4	56	062G02
W-06-043	26-May-06	Unnamed tributary to Cypress Creek	49.02975	-98.99400	4	56	062G02
W-06-044	26-May-06	Unnamed tributary to Cypress Creek	49.04832	-99.07549	3	56	062G03
W-06-045	26-May-06	Unnamed tributary to Cypress Creek	49.14800	-99.09000	4	56	062G03
W-06-046	27-May-06	Pilot Creek	49.22198	-98.88771	4	55	062G02

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W-06-047	27-May-06	McCoys Creek	49.22144	-98.78123	3	54	062G02
W-06-048	27-May-06	Unnamed tributary to Mary Jane Creek	49.25997	-98.59052	2	54	062G07
W-06-049	27-May-06	Oak Creek	49.39854	-99.20145	3	70	062G06
W-06-050	30-May-06	Unnamed tributary to Red River	49.97921	-97.05080	2	12	062H14
W-06-051	30-May-06	Mirey Creek	50.08582	-96.94875	2	28	062I02
W-06-052	30-May-06	Mirey Creek	50.09222	-96.94435	2	28	062I02
W-06-053	30-May-06	Mirey Creek	50.08458	-96.96423	2	28	062I02
W-06-054	30-May-06	Parks Creek	50.13735	-97.11497	2	28	062I03
W-06-055	30-May-06	Parks Creek	50.10798	-97.10354	3	28	062I03
W-06-056	31-May-06	Unnamed tributary to Red River	49.97992	-97.05125	2	12	062H14
W-06-057	31-May-06	Unnamed tributary to Red River	49.76900	-97.20800	2	22	062H14
W-06-058	1-Jun-06	Unnamed tributary to Red River	49.77341	-97.17390	2	22	062H14
W-06-059	1-Jun-06	Unnamed tributary to La Salle River	49.72404	-97.31680	2	22	062H11
W-06-060	1-Jun-06	Unnamed tributary to La Salle River	49.72400	-97.34100	3	22	062H11
W-06-061	6-Jun-06	Unnamed tributary to Overflow Bay	53.10185	-101.11202	2		063F03
W-06-062	6-Jun-06	Unnamed tributary to Overflow Bay	53.02513	-101.06173	2		063F03
W-06-063	7-Jun-06	Rice Creek	52.79695	-101.24176	2		063C14
W-06-064	7-Jun-06	Rice River	52.81638	-101.30812	3		063C14
W-06-065	7-Jun-06	Homestead Creek	52.82509	-101.36466	4		063C14
W-06-066	7-Jun-06	Unnamed tributary to Steeprock River	52.64091	-101.09954	2	115	063C11
W-06-067	8-Jun-06	Trout Creek	52.17680	-101.46600	4	89	063C03
W-06-068	8-Jun-06	Unnamed tributary to Wellburns Creek	51.65300	-100.39200	2	103	062N09
W-06-069	12-Jun-06	Rat River	49.44336	-97.01239	5	4	062H06
W-06-070	12-Jun-06	Rat River	49.32296	-96.95208	5	4	062H07
W-06-071	13-Jun-06	Unnamed tributary from Moose Lake	49.19590	-95.33530	2		052E02

Appendix 1: **Table listing the site number, date sampled, site name, latitude and longitude (in decimal degrees - DD), DES stream order, DES map number and the corresponding NTS map number for all sites surveyed between 2002 and 2006.**

Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-06-072	13-Jun-06	Unnamed tributary to Moose Lake	49.22870	-95.31424	1		052E02
W-06-073	13-Jun-06	Unnamed tributary to Moose Lake	49.24580	-95.28858	2		052E02
W-06-074	13-Jun-06	Unnamed tributary to Sprague Lake	49.26344	-95.28133	3		052E05
W-06-075	13-Jun-06	Unnamed tributary to Sprague Lake	49.28949	-95.32422	1		052E05
W-06-076	13-Jun-06	Unnamed tributary to Harrison Creek	49.34208	-95.34502	1		052E05
W-06-077	13-Jun-06	Harrison Creek	49.38499	-95.33482	2		052E05
W-06-078	14-Jun-06	Unnamed tributary to Monk Creek	49.83054	-95.86144	3	83	052E12
W-06-079	14-Jun-06	Unnamed tributary to Monk Creek	49.86023	-95.87291	3	83	052E12
W-06-080	14-Jun-06	Monk Creek	49.84116	-95.87436	3	83	052E12
W-06-081	15-Jun-06	Bachman Drain	50.12100	-96.52100	3	10	062I02
W-06-082	15-Jun-06	Selkirk Line West	50.15030	-96.52053	3	10	062I02
W-06-083	20-Jun-06	Ochre River	50.92968	-99.81157	5	46	062J13
W-06-084	21-Jun-06	Unnamed tributary to Thunderhill Creek	52.01249	-101.50562	3	61	063C04
W-06-085	21-Jun-06	Thunderhill Creek	52.00731	-101.58527	2	61	063C04
W-06-086	21-Jun-06	Watts Creek	51.70883	-101.55376	3	61	062N12
W-06-087	22-Jun-06	Hickey Creek	51.58764	-101.08872	2	91	062N11
W-06-088	22-Jun-06	Unnamed tributary to Singush Lake	51.61290	-100.78924	2	93	062N10
W-06-089	22-Jun-06	Brelinski Creek	51.75018	-100.55737	3	104	062N15
W-06-090	22-Jun-06	North Pine River	51.79865	-100.60350	4	104	062N15
W-06-091	23-Jun-06	Unnamed tributary to North Pine River	51.78432	-100.64757	2	104	062N15
W-06-092	23-Jun-06	South Duck River	51.89137	-100.58102	3	105	062N15
W-06-093	23-Jun-06	Unnamed tributary to North Duck River	51.99058	-100.66777	3	105	062N15
W-06-094	27-Jun-06	Kris Johnson Drain	51.11948	-96.89769	3	106	062P02
W-06-095	27-Jun-06	Blind Bay Drain	51.15601	-96.96815	2	106	062P02
W-06-096	27-Jun-06	Washow Bay Creek	51.06761	-97.07367	4	106	062P03

Appendix 1: Table listing the site number, date sampled, site name, latitude and longitude (in decimal degrees - DD), DES stream order, DES map number and the corresponding NTS map number for all sites surveyed between 2002 and 2006.

Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-06-097	27-Jun-06	Bump Drain	51.12646	-97.02126	3	106	062P03
W-06-098	28-Jun-06	Swan Creek	50.77204	-98.15099	3	31W	062J16
W-06-099	28-Jun-06	Hayward Drain	50.72775	-98.16776	3	31W	062J09
W-06-100	28-Jun-06	Burnt Lake Drain	50.72060	-98.07553	3	31W	062J09
W-06-101	28-Jun-06	Mud Lake Drain	50.66878	-98.04193	3	31W	062J09
W-06-102	28-Jun-06	Island Lake Drain	50.76539	-97.99498	3	31W	062I13
W-06-103	28-Jun-06	Burnt Lake Drain	50.72985	-97.90194	3	31W	062I12
W-06-104	29-Jun-06	Ben Johnson Drain	51.06762	-96.95456	3	106	062P02
W-06-105	29-Jun-06	Progress Drain	51.05292	-96.98521	3	106	062P02
W-06-106	29-Jun-06	Little Dog Lake Drain	51.00022	-98.34990	3	34	062O01
W-06-107	4-Jul-06	Chippewa Creek Drain	50.81554	-98.25094	3	34	062J16
W-06-108	4-Jul-06	Pine Lake Drain	50.85995	-98.35152	2	34	062J16
W-06-109	4-Jul-06	Pioneer Drain	51.09666	-98.37330	3	34	062O01
W-06-110	5-Jul-06	Valley River	51.16391	-100.48483	5	95	062N01
W-06-111	5-Jul-06	Drifting River	51.33844	-100.48645	3	95	062N08
W-06-112	5-Jul-06	Drifting River	51.29716	-100.41457	3	95	062N08
W-06-113	6-Jul-06	Garland River	51.68959	-100.36001	5	103	062N09
W-06-114	10-Jul-06	Stony Creek	50.21115	-99.47622	4	39	062J03
W-06-115	10-Jul-06	Law Creek	50.34257	-99.53876	3	39	062J05
W-06-116	11-Jul-06	Jackfish Creek	51.03700	-99.99055	4	47	062O04
W-06-117	10-Jul-06	Eden Creek	50.38138	-99.51599	3	39	062J05
W-06-118	11-Jul-06	Crawford Creek	51.03712	-99.83497	2	46	062O04
W-06-119	11-Jul-06	Ochre River	51.03711	-99.78922	5	46	062O04
W-06-120	12-Jul-06	Unnamed tributary to Henderson Creek	50.88339	-99.67184	3	45	062J13
W-06-121	12-Jul-06	Wilson Creek	50.75718	-99.53179	3	44	062J13

Appendix 1: **Table listing the site number, date sampled, site name, latitude and longitude (in decimal degrees - DD), DES stream order, DES map number and the corresponding NTS map number for all sites surveyed between 2002 and 2006.**

Site Number	Date	Site Name	Latitude (DD)	Longitude (DD)	DES Order	DES Map #	NTS Map #
W-06-122	12-Jul-06	Tityk Drain	50.74221	-99.43871	3	44	062J11
W-06-123	12-Jul-06	Unnamed tributary to Turtle River	50.77172	-99.37975	3	44	062J14
W-06-124	18-Jul-06	Unnamed tributary to Bird River	50.41358	-95.66888	3	96	052L05
W-06-125	18-Jul-06	Unnamed tributary to Shellenberg Creek	50.46681	-95.46902	2	96	052L06
W-06-126	18-Jul-06	Bird River	50.46248	-95.41457	4	96	052L06
W-06-127	18-Jul-06	Unnamed tributary to Sausage Lake	50.57898	-95.41947	2	96	052L11
W-06-128	18-Jul-06	Unnamed tributary to Rabbit River	50.65239	-95.41026	4	96	052L11
W-06-129	18-Jul-06	Manigotagan River	50.83387	-95.31328	5		052L14
W-06-130	18-Jul-06	Cold Creek	51.05817	-95.81934	3		052M04
W-06-131	18-Jul-06	Manigotagan River	51.10104	-96.28401	5		062P01
W-06-132	19-Jul-06	Unnamed tributary to Lake Winnipeg	51.01153	-96.23979	1	96	062P01
W-06-133	19-Jul-06	Black River	50.86185	-96.25488	6	96	062I16
W-06-134	20-Jul-06	O'Hanley River	50.78501	-96.20869	6	96	062I16
W-06-135	20-Jul-06	Pine Creek	50.57882	-96.15445	2	96	062I09
W-06-136	20-Jul-06	North Coca Cola Creek	50.47355	-95.99960	2	96	052L05
W-06-137	20-Jul-06	Maple Creek	50.44679	-96.07558	4	96	062I08
W-06-138	1-Aug-06	Souris River	49.17266	-101.03077	7	65	062F03
W-06-139	1-Aug-06	Souris River	49.49342	-100.53217	7	67	062F07
W-06-140	1-Aug-06	Souris River	49.61950	-100.24709	7	67	062F09
W-06-141	2-Aug-06	Souris River	49.59943	-99.68279	7	69	062G12
W-06-142	2-Aug-06	Black Creek	49.61942	-99.67744	4	69	062G12
W-06-143	8-Aug-06	Whitemud River Cross Ditch	50.24071	-98.85887	6	42	062J02
W-06-144	8-Aug-06	Whitemud River	50.23487	-99.24768	6	39	062J03
W-06-145	8-Aug-06	Whitemud River	50.25912	-99.35407	5	39	062J06
W-06-146	9-Aug-06	Joe River	49.01569	-97.17751	3	2	062H03

Appendix 2: Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.

Site Number	Habitat Complexity	
	Upstream	Downstream
D-02-001	C	C
D-02-002	C	C
D-02-003	C	C
D-02-004	C	C
D-02-005	C	C
D-02-006	S	S
D-02-007	S	S
D-02-008	C	S
D-02-009	C	C
D-02-010	S	S
D-02-011	S	S
D-02-012	C	C
D-02-013	C	S
D-02-014	S	C
D-02-015	C	C
D-02-016	S	C
D-02-017	S	C
D-02-018	S	S
D-02-019	C	S
D-02-020	S	S
D-02-021	S	S
D-02-022	S	C
D-02-023	S	S
D-02-024	S	S
D-02-025	S	S
D-02-026	S	S
D-02-027	C	C
D-02-028	C	C
D-02-029	S	S
D-02-030	S	S
D-02-031	S	S
D-02-032	C	C
D-02-033	C	C
D-02-034	S	S
D-02-035	C	C
D-02-036	S	S
D-02-037	C	C
D-02-038	S	S
D-02-039	S	S
D-02-040	C	S
D-02-041	C	C
D-02-042	C	C
D-02-043	C	C
D-02-044	C	C
D-02-045	C	C
D-02-046	C	C
D-02-047	C	C
D-02-048	C	C
D-02-049	C	C
D-02-050	C	C
D-02-051	S	S
D-02-052	C	C
D-02-053	C	C
D-02-054	C	C
D-02-055	S	S
D-02-056	C	C
D-02-057	C	C
D-02-058	C	C
D-02-059	C	C
D-02-060	C	C
D-02-061	C	C
D-02-062	C	C
D-02-063	C	C
D-02-064	S	C
D-02-065	C	C
D-02-066	C	C
D-02-067	S	C
D-02-068	S	S
D-02-069	S	S
D-02-070	C	C
D-02-071	C	C
D-02-072	C	C
D-02-073	C	C
D-02-074	C	C
D-02-075	S	S
D-02-076	S	S
D-02-077	S	S
D-02-078	C	C
D-02-079	C	C
D-02-080	S	S
D-02-081	C	C
D-02-082	C	C
D-02-083	C	C
D-02-084	S	S
D-02-085	S	S
D-02-086	C	S
D-02-087	C	S
D-02-088	S	S
D-02-089	S	S
D-02-090	S	S
D-02-091	S	S
D-02-092	S	S
D-02-093	C	S
D-02-094	S	S
D-02-095	S	C
D-02-096	S	S
D-02-097	S	C
D-02-098	S	S
D-02-099	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
D-02-100	S	S
D-02-101	S	S
D-02-102	S	S
D-02-103	S	C
D-02-104	C	C
D-02-105	C	S
D-02-106	S	S
D-02-107	C	C
D-02-108	C	C
D-02-109	S	S
D-02-110	C	C
D-02-111	C	C
D-02-112	S	S
D-02-113	C	S
D-02-114	C	S
D-02-115	C	C
D-02-116	C	C
D-02-117	C	C
D-02-118	C	C
D-02-119	C	C
D-02-120	C	C
D-02-121	S	C
D-02-122	C	C
D-02-123	S	S
D-02-124	C	C
D-02-125	C	C
D-02-126	S	S
D-02-127	C	C
D-02-128	C	C
D-02-129	C	C
D-02-130	S	S
D-02-131	S	C
D-02-132	S	C
D-02-133	S	S
D-02-134	S	S
D-02-135	C	C
D-02-136	C	C
D-02-137	C	C
D-02-138	C	S
D-02-139	C	C
D-02-140	C	C
D-02-141	C	S
D-02-142	C	C
D-02-143	C	C
D-02-144	S	S
D-02-145	C	C
D-02-146	C	C
D-02-147	C	C
D-02-148	C	C
D-02-149	C	C
D-02-150	S	S
D-02-151	S	C
D-02-152	C	C
D-02-153	S	S
D-02-154	S	S
D-02-155	C	C
D-02-156	C	C
D-02-157	S	S
D-02-158	S	S
D-02-159	S	C
D-02-160	C	C
D-02-161	C	C
D-02-162	S	S
D-02-163	C	C
D-02-164	C	C
D-02-165	C	C
D-02-166	C	C
D-02-167	C	C
D-02-168	C	C
D-02-169	C	C
D-02-170	C	C
D-02-171	C	C
D-02-172	C	C
D-02-173	C	C
D-02-174	C	C
D-02-175	C	C
D-02-176	S	S
D-02-177	S	S
D-02-178	C	C
D-02-179	C	C
D-02-180	C	C
D-02-181	C	C
D-02-182	C	S
D-02-183	C	C
D-02-184	C	C
D-02-185	C	C
D-02-186	C	C
D-02-187	S	C
D-02-188	S	S
D-02-189	S	S
D-02-190	C	C
D-02-191	C	C
D-02-192	C	C
D-02-193	S	C
D-02-194	S	C
D-02-195	C	C
D-02-196	C	C
D-02-197	C	C
D-02-198	C	C
D-02-199	C	C
D-02-200	C	C
D-02-201	C	C

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
B-03-001	C	C
B-03-002	C	C
B-03-003	C	C
B-03-004	C	C
B-03-005	C	C
B-03-006	S	S
B-03-007	S	S
B-03-008	C	C
B-03-009	C	C
B-03-010	C	C
B-03-011	S	S
B-03-012	C	C
B-03-013	C	S
B-03-014	C	C
B-03-015	C	C
B-03-016	C	C
B-03-017	C	C
B-03-018	C	C
B-03-019	C	C
B-03-020	C	C
B-03-021	C	C
B-03-022	C	C
B-03-023	C	C
B-03-024	C	C
B-03-025	C	C
B-03-026	C	C
B-03-027	C	C
B-03-028	C	C
B-03-029	C	C
B-03-030	C	C
B-03-031	C	C
B-03-032	C	C
B-03-033	C	C
B-03-034	C	C
B-03-035	C	C
B-03-036	C	C
B-03-037	C	C
B-03-038	C	C
B-03-039	C	C
B-03-040	C	C
B-03-041	C	C
B-03-042	C	C
B-03-043	C	C
B-03-044	C	C
B-03-045	C	C
B-03-046	C	C
B-03-047	C	C
B-03-048	C	C
B-03-049	C	C
B-03-050	C	C
B-03-051	C	C
B-03-052	C	C
B-03-053	C	C
B-03-054	C	C
B-03-055	C	C
B-03-056	C	S
B-03-057	C	C
B-03-058	C	C
B-03-059	S	S
B-03-060	C	C
B-03-061	C	C
B-03-062	C	C
B-03-063	C	C
B-03-064	S	C
B-03-065	C	C
B-03-066	C	C
B-03-067	C	C
B-03-068	C	C
B-03-069	C	C
B-03-070	C	C
B-03-071	C	C
B-03-072	C	C
B-03-073	C	C
B-03-074	C	C
B-03-075	C	C
B-03-076	C	C
B-03-077	C	C
B-03-078	S	C
B-03-079	C	C
B-03-080	C	C
B-03-081	C	C
B-03-082	C	C
B-03-083	S	S
B-03-084	S	S
B-03-085	S	S
B-03-086	S	S
B-03-087	C	C
B-03-088	C	C
B-03-089	C	C
B-03-090	S	S
B-03-091	S	S
B-03-092	S	S
B-03-093	S	S
B-03-094	S	S
B-03-095	S	S
B-03-096	S	S
B-03-097	C	C
B-03-098	C	C
B-03-099	C	C
B-03-100	C	C
B-03-101	S	C
B-03-102	C	C

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
B-03-103	C	C
B-03-104	C	C
B-03-105	C	C
B-03-106	C	C
B-03-107	S	C
B-03-108	C	C
B-03-109	C	C
B-03-110	S	S
B-03-111	S	S
B-03-112	C	C
B-03-113	C	C
B-03-114	C	C
B-03-115	S	C
B-03-116	C	C
B-03-117	C	C
B-03-118	C	C
B-03-119	C	C
B-03-120	C	S
B-03-121	C	C
B-03-122	C	C
B-03-123	S	S
B-03-124	C	C
B-03-125	S	S
B-03-126	C	C
B-03-127	C	C
B-03-128	C	C
B-03-129	C	C
B-03-130	S	S
B-03-131	C	C
B-03-132	C	C
B-03-133	C	C
B-03-134	C	C
B-03-135	C	C
B-03-136	C	C

Site Number	Habitat Complexity	
	Upstream	Downstream
B-03-137	C	C
B-03-138	S	S
B-03-139	S	C
B-03-140	C	C
B-03-141	C	C
B-03-142	C	C
B-03-143	C	C
B-03-144	C	C
B-03-145	S	C
B-03-146	C	C
B-03-147	S	C
B-03-148	C	C
B-03-149	C	C
B-03-150	C	C
B-03-151	C	C
B-03-152	C	C
B-03-153	C	C
B-03-154	C	C
B-03-155	C	C
B-03-156	C	C
B-03-157	C	C
B-03-158	C	C
B-03-159	C	C
B-03-160	C	C
B-03-161	C	C
B-03-162	C	C
B-03-163	C	C
B-03-164	S	S
B-03-165	S	C
B-03-166	S	S
B-03-167	S	S
B-03-168	S	S
B-03-169	S	S
B-03-170	S	S

Site Number	Habitat Complexity	
	Upstream	Downstream
B-03-171	S	S
B-03-172	S	S
B-03-173	S	S
B-03-174	S	S
B-03-175	S	S
B-03-176	S	S
B-03-177	S	S
B-03-178	S	S
B-03-179	S	S
B-03-180	S	C
B-03-181	C	C
B-03-182	S	S
B-03-183	S	C
B-03-184	S	C
B-03-185	C	C
B-03-186	C	C
B-03-187	S	C
B-03-188	S	S
B-03-189	S	S
B-03-190	C	C
B-03-191	C	S
B-03-192	S	S
B-03-193	C	C
B-03-194	C	C
B-03-195	S	S
B-03-196	S	S
B-03-197	S	S
B-03-198	S	S
B-03-199	S	S
B-03-200	C	C
B-03-201	C	C
B-03-202	C	C
B-03-203	S	S
B-03-204	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
B-03-205	C	C
B-03-206	S	C
B-03-207	S	C
B-03-208	S	C
B-03-209	C	C
B-03-210	C	C
B-03-211	C	C
B-03-212	S	S
B-03-213	S	S
B-03-214	C	C
B-03-215	C	C
B-03-216	S	S
B-03-217	S	S
B-03-218	S	S
B-03-219	S	C
B-03-220	C	C
B-03-221	C	C
B-03-222	C	C
B-03-223	C	C
B-03-224	C	C
B-03-225	S	S
B-03-226	S	S
B-03-227	C	C
B-03-228	C	C
B-03-229	S	S
B-03-230	S	S
B-03-231	C	C
B-03-232	C	C
B-03-233	C	C
B-03-234	S	S
B-03-235	S	S
B-03-236	S	S
B-03-237	S	S
B-03-238	S	S
B-03-239	C	C
B-03-240	S	S
B-03-241	S	S
B-03-242	S	S
B-03-243	S	S
B-03-244	C	S
B-03-245	S	S
B-03-246	S	S
B-03-247	S	S
B-03-248	S	S
B-03-249	C	C
B-03-250	S	S
D-03-001	C	C
D-03-002	C	C
D-03-003	C	C
D-03-004	C	C
D-03-005	C	C
D-03-006	C	C
D-03-007	S	C
D-03-008	C	C
D-03-009	C	C
D-03-010	C	C
D-03-011	C	C
D-03-012	C	C
D-03-013	C	C
D-03-014	C	C
D-03-015	C	C
D-03-016	C	C
D-03-017	C	C
D-03-018	C	C
D-03-019	C	C
D-03-020	S	S
D-03-021	C	C
D-03-022	C	C
D-03-023	C	S
D-03-024	C	C
D-03-025	C	C
D-03-026	S	C
D-03-027	C	C
D-03-028	C	C
D-03-029	C	C
D-03-030	C	C
D-03-031	C	C
D-03-032	C	C
D-03-033	C	C
D-03-034	S	C
D-03-035	C	C
D-03-036	C	C
D-03-037	C	C
D-03-038	C	C
D-03-039	S	S
D-03-040	C	C
D-03-041	C	C
D-03-042	S	S
D-03-043	C	S
D-03-044	S	S
D-03-045	C	S
D-03-046	S	S
D-03-047	S	S
D-03-048	C	C
D-03-049	S	S
D-03-050	S	C
D-03-051	S	S
D-03-052	C	C
D-03-053	S	S
D-03-054	S	S
D-03-055	C	C
D-03-056	C	C

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
D-03-057	C	C
D-03-058	C	C
D-03-059	C	C
D-03-060	C	C
D-03-061	S	S
D-03-062	C	C
D-03-063	C	C
D-03-064	C	C
D-03-065	S	S
D-03-066	C	C
D-03-067	C	C
D-03-068	C	C
D-03-069	C	C
D-03-070	S	S
D-03-071	C	C
D-03-072	C	C
D-03-073	C	C
D-03-074	C	C
D-03-075	C	C
D-03-076	C	C
D-03-077	C	C
D-03-078	C	C
D-03-079	C	C
D-03-080	C	C
D-03-081	C	C
D-03-082	C	C
D-03-083	C	C
D-03-084	C	C
D-03-085	C	C
D-03-086	C	C
D-03-087	S	S
D-03-088	C	C
D-03-089	C	C
D-03-090	C	C

Site Number	Habitat Complexity	
	Upstream	Downstream
D-03-091	C	C
D-03-092	C	C
D-03-093	C	C
D-03-094	C	C
D-03-095	C	C
D-03-096	C	C
D-03-097	C	C
D-03-098	C	C
D-03-099	C	C
D-03-100	C	C
D-03-101	C	C
D-03-102	C	C
D-03-103	C	C
D-03-104	S	C
D-03-105	C	C
D-03-106	S	S
D-03-107	S	S
D-03-108	C	C
D-03-109	C	C
D-03-110	C	C
D-03-111	C	C
D-03-112	C	C
D-03-113	C	C
D-03-114	C	C
D-03-115	C	C
D-03-116	C	C
D-03-117	C	C
D-03-118	C	C
D-03-119	S	S
D-03-120	S	C
D-03-121	C	C
D-03-122	C	C
D-03-123	S	S
D-03-124	S	S

Site Number	Habitat Complexity	
	Upstream	Downstream
D-03-125	S	S
D-03-126	S	S
D-03-127	S	S
D-03-128	S	S
D-03-129	S	S
D-03-130	S	S
D-03-131	C	C
D-03-132	C	C
D-03-133	S	S
D-03-134	S	S
D-03-135	C	C
D-03-136	S	S
D-03-137	C	C
D-03-138	S	S
D-03-139	C	C
D-03-140	C	C
D-03-141	S	S
D-03-142	C	C
D-03-143	C	C
D-03-144	C	C
D-03-145	C	C
D-03-146	C	C
D-03-147	C	C
D-03-148	C	C
D-03-149	C	C
D-03-150	C	S
D-03-151	S	S
D-03-152	S	C
D-03-153	C	C
D-03-154	C	C
D-03-155	C	C
D-03-156	C	C
D-03-157	C	C
D-03-158	C	C

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
D-03-159	C	C
D-03-160	S	S
D-03-161	S	S
D-03-162	S	C
D-03-163	S	S
D-03-164	C	C
D-03-165	C	C
D-03-166	C	C
D-03-167	C	C
D-03-168	C	C
D-03-169	C	C
D-03-170	C	C
W-03-001	S	S
W-03-002	C	S
W-03-003	C	C
W-03-004	C	C
W-03-005	C	C
W-03-006	C	C
W-03-007	C	C
W-03-008	S	S
W-03-009	C	C
W-03-010	S	S
W-03-011	S	S
W-03-012	S	S
W-03-013	S	C
W-03-014	S	S
W-03-015	S	S
W-03-016	S	S
W-03-017	S	S
W-03-018	S	S
W-03-019	S	S
W-03-020	S	S
W-03-021	S	S
W-03-022	S	S
W-03-023	S	S
W-03-024	S	S
W-03-025	S	S
W-03-026	S	S
W-03-027	S	S
W-03-028	S	S
W-03-029	S	S
W-03-030	S	S
W-03-031	S	S
W-03-032	S	S
W-03-033	S	S
W-03-034	S	S
W-03-035	S	S
W-03-036	S	S
W-03-037	S	S
W-03-038	S	S
W-03-039	S	S
W-03-040	S	S
W-03-041	S	S
W-03-042	S	S
W-03-043	S	S
W-03-044	C	C
W-03-045	S	S
W-03-046	C	C
W-03-047	S	S
W-03-048	S	S
W-03-049	C	C
W-03-050	C	C
W-03-051	C	C
W-03-052	S	S
W-03-053	S	S
W-03-054	C	C
W-03-055	S	S
W-03-056	C	C
W-03-057	S	S
W-03-058	S	S
W-03-059	C	C
W-03-060	S	S
W-03-061	C	C
W-03-062	C	C
W-03-063	S	S
W-03-064	C	C
W-03-065	C	C
W-03-066	C	C
W-03-067	C	C
W-03-068	S	S
W-03-069	C	C
W-03-070	C	C
W-03-071	S	S
W-03-072	S	S
W-03-073	C	C
W-03-074	C	C
W-03-075	C	C
W-03-076	S	S
W-03-077	C	C
W-03-078	S	C
W-03-079	C	C
W-03-080	S	C
W-03-081	S	S
W-03-082	S	S
W-03-083	S	S
W-03-084	S	S
W-03-085	S	S
W-03-086	S	S
W-03-087	C	C
W-03-088	S	S
W-03-089	S	S
W-03-090	S	S

Appendix 2. Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.

Site Number	Habitat Complexity	
	Upstream	Downstream
W-03-091	C	C
W-03-092	C	C
W-03-093	C	C
W-03-094	C	C
W-03-095	C	C
W-03-096	C	C
W-03-097	C	C
W-03-098	C	C
W-03-099	C	C
W-03-100	C	C
W-03-101	C	C
W-03-102	C	C
W-03-103	S	C
W-03-104	C	C
W-03-105	C	C
W-03-106	S	S
W-03-107	C	C
W-03-108	C	C
W-03-109	S	S
W-03-110	C	C
W-03-111	C	C
W-03-112	C	C
W-03-113	S	S
W-03-114	C	C
W-03-115	C	C
W-03-116	C	C
W-03-117	S	S
W-03-118	S	S
W-03-119	S	S
W-03-120	S	S
W-03-121	S	S
W-03-122	S	S
W-03-123	S	S
W-03-124	S	S
W-03-125	S	S
W-03-126	S	S
W-03-127	S	S
W-03-128	S	S
W-03-129	S	S
W-03-130	S	S
W-03-131	S	S
W-03-132	S	S
W-03-133	S	S
W-03-134	S	S
W-03-135	S	S
W-03-136	S	S
W-03-137	S	S
W-03-138	C	S
W-03-139	C	C
W-03-140	S	S
W-03-141	S	S
W-03-142	S	C
W-03-143	S	S
W-03-144	C	C
W-03-145	S	S
W-03-146	C	C
W-03-147	S	S
W-03-148	S	S
W-03-149	S	S
W-03-150	C	C
W-03-151	C	C
W-03-152	C	C
W-03-153	C	C
W-03-154	C	C
W-03-155	C	C
W-03-156	C	C
W-03-157	S	C
W-03-158	C	C
W-03-159	C	C
W-03-160	C	C
W-03-161	C	C
W-03-162	C	C
W-03-163	C	C
W-03-164	C	C
W-03-165	C	C
W-03-166	S	S
W-03-167	S	C
W-03-168	C	C
W-03-169	C	C
W-03-170	S	S
W-03-171	C	C
W-03-172	C	C
W-03-173	C	C
W-03-174	S	S
W-03-175	S	C
W-03-176	C	C
W-03-177	S	S
W-03-178	S	S
W-03-179	S	S
W-03-180	C	C
W-03-181	C	C
W-03-182	S	C
W-03-183	S	S
W-03-184	S	S
W-03-185	S	C
W-03-186	C	C
W-03-187	S	S
W-03-188	C	C
W-03-189	S	C
W-03-190	C	S
W-03-191	S	S
W-03-192	S	S

Appendix 2. Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.

Site Number	Habitat Complexity	
	Upstream	Downstream
W-03-193	C	C
W-03-194	C	C
W-03-195	C	C
W-03-196	C	C
W-03-197	C	C
W-03-198	C	C
W-03-199	C	C
W-03-200	C	C
W-03-201	C	C
W-03-202	C	C
W-03-203	C	C
W-03-204	C	C
W-03-205	C	C
W-03-206	S	S
W-03-207	C	S
W-03-208	S	S
W-03-209	S	S
W-03-210	S	S
W-03-211	S	C
W-03-212	S	S
W-03-213	S	S
W-03-214	C	S
W-03-215	C	C
W-03-216	S	S
W-03-217	S	S
W-03-218	S	S
W-03-219	S	S
W-03-220	S	S
W-03-221	S	S
W-03-222	S	S
W-03-223	S	S
W-03-224	S	S
W-03-225	S	S
W-03-226	S	S
W-03-227	S	S
W-03-228	S	S
W-03-229	S	C
W-03-230	S	S
W-03-231	S	S
W-03-232	S	S
W-03-233	S	S
W-03-234	S	S
W-03-235	S	S
W-03-236	C	C
W-03-237	C	C
W-03-238	C	C
W-03-239	C	C
W-03-240	S	S
W-03-241	C	C
W-03-242	C	C
W-03-243	C	C
W-03-244	S	S
W-03-245	S	S
W-03-246	S	S
W-03-247	C	C
W-03-248	S	S
W-03-249	C	C
W-03-250	S	S
W-03-251	S	S
W-03-252	C	C
W-03-253	S	S
W-03-254	S	S
W-03-255	C	C
W-03-256	S	S
W-03-257	S	S
W-03-258	S	S
W-03-259	C	C
W-03-260	C	C
W-03-261	S	S
W-03-262	S	S
W-03-263	S	S
W-03-264	C	C
W-03-265	C	S
W-03-266	C	C
W-03-267	S	S
B-04-001	S	S
B-04-002	S	S
B-04-003	S	S
B-04-004	S	S
B-04-005	S	S
B-04-006	S	S
B-04-007	S	S
B-04-008	C	C
B-04-009	S	S
B-04-010	S	S
B-04-011	S	S
B-04-012	C	C
B-04-013	C	C
B-04-014	C	C
B-04-015	C	C
B-04-016	C	C
B-04-017	C	C
B-04-018	C	C
B-04-019	S	S
B-04-020	S	S
B-04-021	S	S
B-04-022	S	S
B-04-023	S	S
B-04-024	S	S
B-04-025	S	S
B-04-026	C	C
B-04-027	C	C

Appendix 2. Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.

Site Number	Habitat Complexity	
	Upstream	Downstream
B-04-028	S	S
B-04-029	S	S
B-04-030	S	S
B-04-031	C	C
B-04-032	C	C
B-04-033	C	C
B-04-034	S	S
B-04-035	C	C
B-04-036	S	S
B-04-037	C	C
B-04-038	S	S
B-04-039	C	C
B-04-040	S	S
B-04-041	C	C
B-04-042	C	C
B-04-043	C	C
B-04-044	C	C
B-04-045	C	C
B-04-046	C	C
B-04-047	C	C
B-04-048	C	C
B-04-049	C	C
B-04-050	C	C
B-04-051	C	C
B-04-052	C	C
B-04-053	C	C
B-04-054	C	C
B-04-055	C	C
B-04-056	C	C
B-04-057	C	C
B-04-058	C	C
B-04-059	C	C
B-04-060	C	C
B-04-061	C	C
B-04-062	C	C
B-04-063	C	C
B-04-064	C	C
B-04-065	S	S
B-04-066	S	S
B-04-067	S	S
B-04-068	C	C
B-04-069	C	C
B-04-070	C	S
B-04-071	S	S
B-04-072	S	S
B-04-073	C	C
B-04-074	C	C
B-04-075	C	C
B-04-076	S	S
B-04-077	C	C
B-04-078	C	C
B-04-079	C	C
B-04-080	S	C
B-04-081	S	S
B-04-082	S	C
B-04-083	S	C
B-04-084	S	S
B-04-085	S	S
B-04-086	S	S
B-04-087	C	C
B-04-088	C	C
B-04-089	S	S
B-04-090	C	C
B-04-091	C	C
B-04-092	C	C
B-04-093	C	C
B-04-094	C	C
B-04-095	C	C
B-04-096	C	C
B-04-097	S	S
B-04-098	S	S
B-04-099	S	S
B-04-100	S	S
B-04-101	S	C
B-04-102	C	C
B-04-103	S	C
B-04-104	C	C
B-04-105	C	C
B-04-106	S	S
B-04-107	C	C
B-04-108	C	C
B-04-109	S	S
B-04-110	S	S
B-04-111	C	C
B-04-112	C	C
B-04-113	C	C
B-04-114	C	C
B-04-115	C	C
B-04-116	C	C
B-04-117	C	C
B-04-118	C	C
B-04-119	C	S
B-04-120	C	C
B-04-121	C	C
B-04-122	C	C
B-04-123	C	C
B-04-124	C	C
B-04-125	C	C
B-04-126	C	C
B-04-127	C	C
B-04-128	C	C
B-04-129	C	C

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
B-04-130	C	S
B-04-131	S	S
B-04-132	S	S
B-04-133	C	C
B-04-134	C	C
B-04-135	C	C
B-04-136	C	C
B-04-137	C	C
B-04-138	C	C
B-04-139	C	C
B-04-140	C	C
B-04-141	C	C
B-04-142	S	C
B-04-143	S	C
B-04-144	C	C
B-04-145	C	C
B-04-146	C	C
B-04-147	C	C
B-04-148	S	S
B-04-149	C	C
B-04-150	C	C
B-04-151	C	C
B-04-152	C	C
B-04-153	C	C
B-04-154	C	C
B-04-155	C	C
B-04-156	C	C
B-04-157	C	C
B-04-158	C	C
B-04-159	C	C
B-04-160	C	C
B-04-161	C	C
B-04-162	C	C
B-04-163	C	C

Site Number	Habitat Complexity	
	Upstream	Downstream
B-04-164	C	C
B-04-165	C	C
B-04-166	C	C
B-04-167	C	C
B-04-168	C	C
B-04-169	C	C
B-04-170	S	C
B-04-171	C	C
B-04-172	S	S
B-04-173	C	C
B-04-174	C	C
B-04-175	C	C
B-04-176	C	C
B-04-177	S	S
B-04-178	C	C
B-04-179	C	C
B-04-180	C	C
B-04-181	C	C
B-04-182	S	S
B-04-183	S	S
B-04-184	S	S
B-04-185	C	C
B-04-186	C	C
B-04-187	C	C
B-04-188	C	C
B-04-189	C	C
B-04-190	C	C
B-04-191	C	C
B-04-192	S	C
B-04-193	S	C
B-04-194	C	C
B-04-195	C	C
B-04-196	C	C
B-04-197	C	C

Site Number	Habitat Complexity	
	Upstream	Downstream
B-04-198	C	C
B-04-199	C	C
B-04-200	C	C
B-04-201	C	C
B-04-202	C	C
B-04-203	S	S
B-04-204	C	C
B-04-205	S	S
B-04-206	C	C
B-04-207	S	S
B-04-208	C	C
B-04-209	C	C
B-04-210	S	S
B-04-211	S	S
B-04-212	C	C
B-04-213	C	C
B-04-214	C	C
B-04-215	C	C
B-04-216	S	S
B-04-217	C	C
B-04-218	C	C
B-04-219	C	C
B-04-220	C	C
B-04-221	C	C
B-04-222	C	C
B-04-223	C	C
B-04-224	C	C
B-04-225	C	C
B-04-226	C	C
B-04-227	C	C
B-04-228	C	C
B-04-229	S	S
B-04-230	S	S
B-04-231	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
B-04-232	S	S
B-04-233	S	S
B-04-234	S	S
B-04-235	S	S
B-04-236	S	S
B-04-237	S	S
B-04-238	C	C
B-04-239	C	C
B-04-240	C	C
B-04-241	C	C
B-04-242	S	C
B-04-243	C	C
B-04-244	C	C
B-04-245	S	S
B-04-246	S	S
B-04-247	S	S
B-04-248	C	C
B-04-249	S	S
B-04-250	S	S
B-04-251	S	C
B-04-252	S	S
B-04-253	C	S
B-04-254	S	S
B-04-255	C	C
B-04-256	C	C
B-04-257	C	C
B-04-258	S	S
B-04-259	S	C
B-04-260	C	C
B-04-261	C	C
B-04-262	C	C
B-04-263	C	C
B-04-264	C	C
B-04-265	C	C
B-04-266	C	C
B-04-267	C	C
B-04-268	C	C
B-04-269	C	C
B-04-270	C	C
B-04-271	C	C
B-04-272	S	S
B-04-273	S	S
B-04-274	S	S
B-04-275	S	S
B-04-276	S	S
B-04-277	S	S
B-04-278	S	S
B-04-279	S	S
B-04-280	S	S
B-04-281	S	C
B-04-282	S	S
B-04-283	S	S
B-04-284	S	S
B-04-285	C	C
B-04-286	C	C
B-04-287	C	C
B-04-288	S	S
D-04-001	C	C
D-04-002	C	C
D-04-003	S	S
D-04-004	C	C
D-04-005	S	S
D-04-006	C	C
D-04-007	C	C
D-04-008	C	C
D-04-009	S	S
D-04-010	C	C
D-04-011	C	C
D-04-012	C	C
D-04-013	C	C
D-04-014	C	C
D-04-015	C	C
D-04-016	C	C
D-04-017	C	S
D-04-018	C	C
D-04-019	C	C
D-04-020	C	C
D-04-021	C	C
D-04-022	S	S
D-04-023	C	C
D-04-024	S	S
D-04-025	C	C
D-04-026	C	C
D-04-027	C	C
D-04-028	C	C
D-04-029	S	C
D-04-030	C	C
D-04-031	C	C
D-04-032	C	C
D-04-033	C	C
D-04-034	C	C
D-04-035	C	C
D-04-036	C	C
W-04-001	S	S
W-04-002	S	S
W-04-003	C	C
W-04-004	S	S
W-04-005	S	S
W-04-006	S	S
W-04-007	S	S
W-04-008	S	S
W-04-009	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
W-04-010	S	S
W-04-011	S	S
W-04-012	S	S
W-04-013	S	S
W-04-014	S	S
W-04-015	S	S
W-04-016	S	S
W-04-017	S	S
W-04-018	S	S
W-04-019	S	C
W-04-020	S	S
W-04-021	S	S
W-04-022	S	S
W-04-023	C	C
W-04-024	C	C
W-04-025	C	C
W-04-026	C	C
W-04-027	S	S
W-04-028	C	C
W-04-029	S	S
W-04-030	S	S
W-04-031	S	C
W-04-032	C	C
W-04-033	S	S
W-04-034	S	C
W-04-035	S	S
W-04-036	C	S
W-04-037	S	S
W-04-038	C	C
W-04-039	S	S
W-04-040	S	S
W-04-041	S	C
W-04-042	S	S
W-04-043	S	S
W-04-044	S	C
W-04-045	S	S
W-04-046	S	S
W-04-047	S	S
W-04-048	S	S
W-04-049	C	C
W-04-050	C	C
W-04-051	C	C
W-04-052	C	C
W-04-053	S	C
W-04-054	C	S
W-04-055	S	S
W-04-056	S	S
W-04-057	S	S
W-04-058	S	C
W-04-059	S	S
W-04-060	C	C
W-04-061	C	C
W-04-062	S	C
W-04-063	S	S
W-04-064	C	C
W-04-065	S	S
W-04-066	S	S
W-04-067	S	S
W-04-068	S	S
W-04-069	S	S
W-04-070	S	S
W-04-071	S	S
W-04-072	S	C
W-04-073	S	S
W-04-074	S	S
W-04-075	S	S
W-04-076	S	S
W-04-077	S	S
W-04-078	S	S
W-04-079	S	S
W-04-080	S	S
W-04-081	C	C
W-04-082	S	S
W-04-083	C	C
W-04-084	C	C
W-04-085	C	C
W-04-086	C	C
W-04-087	S	S
W-04-088	S	S
W-04-089	S	S
W-04-090	C	C
W-04-091	S	C
W-04-092	C	C
W-04-093	C	C
W-04-094	C	C
W-04-095	C	C
W-04-096	C	C
W-04-097	C	C
W-04-098	C	C
W-04-099	C	C
W-04-100	C	C
W-04-101	C	C
W-04-102	C	C
W-04-103	S	S
W-04-104	C	C
W-04-105	C	S
W-04-106	S	C
W-04-107	C	C
W-04-108	C	C
W-04-109	S	C
W-04-110	S	S
W-04-111	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
W-04-112	S	S
W-04-113	S	S
W-04-114	S	S
W-04-115	S	S
W-04-116	S	S
W-04-117	S	S
W-04-118	S	S
W-04-119	S	S
W-04-120	C	C
W-04-121	C	C
W-04-122	S	S
W-04-123	S	S
W-04-124	S	S
W-04-125	C	C
W-04-126	C	C
W-04-127	C	C
W-04-128	S	S
W-04-129	S	C
W-04-130	C	C
W-04-131	S	S
W-04-132	S	C
W-04-133	S	S
W-04-134	S	S
W-04-135	S	S
W-04-136	S	S
W-04-137	C	C
W-04-138	S	S
W-04-139	S	C
W-04-140	S	S
W-04-141	S	S
W-04-142	S	S
W-04-143	S	S
W-04-144	S	S
W-04-145	C	C
W-04-146	S	S
W-04-147	S	S
W-04-148	S	S
W-04-149	S	S
W-04-150	S	S
W-04-151	S	S
W-04-152	C	S
W-04-153	S	S
W-04-154	C	C
W-04-155	C	C
W-04-156	S	S
W-04-157	S	C
W-04-158	S	C
W-04-159	C	C
W-04-160	S	S
W-04-161	S	S
W-04-162	S	S
W-04-163	C	C
W-04-164	S	S
W-04-165	S	S
W-04-166	S	S
W-04-167	S	S
W-04-168	S	S
W-04-169	S	C
W-04-170	S	C
W-04-171	S	C
W-04-172	S	S
W-04-173	S	S
W-04-174	S	S
W-04-175	C	S
W-04-176	C	C
W-04-177	C	S
W-04-178	C	S
W-04-179	S	S
W-04-180	S	S
W-04-181	C	C
W-04-182	C	C
W-04-183	C	C
W-04-184	C	C
W-04-185	S	S
W-04-186	S	S
W-04-187	S	C
W-04-188	S	S
W-04-189	S	C
W-04-190	C	C
W-04-191	C	C
W-04-192	C	C
W-04-193	C	C
W-04-194	C	C
W-04-195	C	C
W-04-196	C	C
W-04-197	C	C
W-04-198	C	C
W-04-199	C	S
W-04-200	C	C
W-04-201	S	S
W-04-202	S	S
W-04-203	S	S
W-04-204	S	S
W-04-205	S	S
W-04-206	C	C
W-04-207	C	C
W-04-208	C	C
W-04-209	C	C
W-04-210	C	C
W-04-211	C	C
W-04-212	S	C
W-04-213	C	C

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
W-04-214	S	S
W-04-215	S	S
W-04-216	C	C
W-04-217	S	S
W-04-218	S	C
W-04-219	S	S
W-04-220	S	S
W-04-221	S	S
W-04-222	S	S
W-04-223	S	S
W-04-224	S	S
W-04-225	S	C
W-04-226	S	C
W-04-227	S	S
W-04-228	S	S
W-04-229	S	S
W-04-230	S	S
W-04-231	S	S
W-04-232	C	C
W-04-233	C	C
W-04-234	C	C
W-04-235	C	C
W-04-236	C	C
W-04-237	C	C
W-04-238	C	C
W-04-239	C	C
W-04-240	C	C
W-04-241	C	C
W-04-242	C	C
W-04-243	C	C
W-04-244	C	C
W-04-245	C	C
W-04-246	C	C
W-04-247	S	S
W-04-248	C	C
W-04-249	C	C
W-04-250	C	C
W-04-251	C	C
W-04-252	C	C
W-04-253	C	C
W-04-254	C	C
W-04-255	C	C
W-04-256	C	C
W-04-257	S	C
W-04-258	S	C
W-04-259	S	S
W-04-260	C	S
W-04-261	S	S
W-04-262	C	C
W-04-263	S	S
W-04-264	S	S
W-04-265	C	C
W-04-266	C	C
W-04-267	C	C
W-04-268	C	C
W-04-269	C	C
W-04-270	S	S
W-04-271	C	C
W-04-272	C	C
W-04-273	S	S
W-04-274	C	C
W-04-275	S	S
W-04-276	S	S
W-04-277	S	S
W-04-278	S	S
W-04-279	S	S
W-04-280	S	S
W-04-281	S	S
W-04-282	S	S
W-04-283	S	S
W-04-284	S	S
W-04-285	S	S
W-04-286	C	C
W-04-287	C	C
W-04-288	S	S
W-04-289	C	C
W-04-290	S	C
W-04-291	S	C
W-04-292	C	C
W-04-293	S	S
W-04-294	C	C
W-04-295	C	C
W-04-296	C	C
W-04-297	C	C
W-04-298	C	C
W-04-299	C	C
W-04-300	C	C
W-04-301	C	C
X-04-001	S	S
X-04-002	S	S
X-04-003	S	S
X-04-004	S	S
X-04-005	S	S
X-04-006	C	C
X-04-007	S	S
X-04-008	S	S
X-04-009	S	S
X-04-010	S	S
X-04-011	S	S
X-04-012	S	S
X-04-013	S	C
X-04-014	C	C

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
X-04-015	S	S
X-04-016	C	C
X-04-017	C	C
X-04-018	C	C
X-04-019	C	C
X-04-020	C	C
X-04-021	S	S
X-04-022	S	S
X-04-023	C	C
X-04-024	S	S
X-04-025	S	S
X-04-026	S	S
X-04-027	S	S
X-04-028	S	S
X-04-029	S	S
X-04-030	S	S
X-04-031	S	S
X-04-032	S	S
X-04-033	S	S
X-04-034	S	S
X-04-035	S	S
X-04-036	S	C
X-04-037	C	C
X-04-038	S	S
X-04-039	S	S
X-04-040	S	S
X-04-041	S	S
X-04-042	S	S
X-04-043	C	C
X-04-044	S	S
X-04-045	S	S
X-04-046	S	S
X-04-047	C	C
X-04-048	C	C

Site Number	Habitat Complexity	
	Upstream	Downstream
X-04-049	C	C
X-04-050	C	C
X-04-051	C	C
X-04-052	S	S
X-04-053	S	C
X-04-054	S	S
X-04-055	S	S
X-04-056	S	S
X-04-057	C	C
X-04-058	S	S
X-04-059	C	C
X-04-060	S	S
X-04-061	S	S
X-04-062	S	C
X-04-063	S	C
X-04-064	S	S
X-04-065	C	C
X-04-066	S	S
X-04-067	C	C
X-04-068	S	S
X-04-069	S	S
X-04-070	S	S
X-04-071	S	S
X-04-072	S	S
X-04-073	S	S
X-04-074	S	S
X-04-075	S	S
X-04-076	C	C
X-04-077	C	C
X-04-078	S	C
X-04-079	S	C
X-04-080	C	C
X-04-081	S	S
X-04-082	S	S

Site Number	Habitat Complexity	
	Upstream	Downstream
X-04-083	C	C
X-04-084	S	S
X-04-085	C	S
X-04-086	S	S
X-04-087	C	C
X-04-088	S	S
X-04-089	C	C
X-04-090	C	C
X-04-091	C	C
X-04-092	C	C
X-04-093	C	C
X-04-094	C	C
X-04-095	C	C
X-04-096	S	S
X-04-097	S	C
X-04-098	S	S
X-04-099	S	S
X-04-100	S	C
X-04-101	S	S
X-04-102	S	C
X-04-103	S	S
X-04-104	C	S
X-04-105	C	C
X-04-106	C	C
X-04-107	C	C
X-04-108	C	C
X-04-109	C	C
X-04-110	C	C
X-04-111	C	C
X-04-112	C	C
X-04-113	S	S
X-04-114	C	C
X-04-115	C	C
X-04-116	C	C

Appendix 2. Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.

Site Number	Habitat Complexity	
	Upstream	Downstream
X-04-117	S	S
X-04-118	C	C
X-04-119	C	C
X-04-120	C	C
X-04-121	C	C
X-04-122	C	C
X-04-123	C	C
X-04-124	C	C
X-04-125	S	S
X-04-126	S	S
X-04-127	S	S
X-04-128	C	C
X-04-129	C	C
X-04-130	C	C
X-04-131	S	S
X-04-132	S	C
X-04-133	C	C
X-04-134	S	S
X-04-135	S	C
X-04-136	S	C
X-04-137	C	C
X-04-138	C	C
X-04-139	C	C
X-04-140	C	C
X-04-141	C	C
X-04-142	C	C
X-04-143	C	C
X-04-144	C	C
X-04-145	C	C
X-04-146	C	C
X-04-147	C	C
X-04-148	C	S
X-04-149	C	C
X-04-150	C	C
X-04-151	C	C
X-04-152	C	C
X-04-153	C	C
X-04-154	C	C
X-04-155	C	C
X-04-156	S	C
X-04-157	C	C
X-04-158	C	C
X-04-159	C	C
X-04-160	C	C
X-04-161	C	C
X-04-162	C	C
X-04-163	C	C
X-04-164	C	C
X-04-165	S	C
X-04-166	S	C
X-04-167	S	S
X-04-168	S	S
X-04-169	C	C
X-04-170	C	C
X-04-171	C	C
X-04-172	C	C
X-04-173	S	C
X-04-174	C	C
X-04-175	C	C
X-04-176	C	C
X-04-177	C	C
X-04-178	S	C
X-04-179	C	C
X-04-180	C	C
X-04-181	C	C
X-04-182	C	C
X-04-183	C	C
X-04-184	S	S
X-04-185	C	S
X-04-186	S	S
X-04-187	C	S
X-04-188	C	C
X-04-189	C	C
X-04-190	C	S
X-04-191	S	S
X-04-192	S	S
X-04-193	S	C
X-04-194	C	C
X-04-195	C	C
X-04-196	S	S
X-04-197	S	S
X-04-198	S	C
X-04-199	S	C
X-04-200	C	C
X-04-201	S	S
X-04-202	S	S
X-04-203	C	C
X-04-204	S	C
X-04-205	C	C
X-04-206	C	C
X-04-207	C	C
X-04-208	C	C
X-04-209	C	C
X-04-210	C	C
X-04-211	C	C
X-04-212	S	S
X-04-213	S	S
X-04-214	S	S
X-04-215	S	S
X-04-216	S	S
X-04-217	C	C
X-04-218	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
X-04-219	S	S
X-04-220	S	S
X-04-221	C	C
X-04-222	C	C
X-04-223	C	C
X-04-224	C	C
X-04-225	C	C
X-04-226	C	C
X-04-227	C	C
X-04-228	C	C
X-04-229	C	C
X-04-230	C	C
X-04-231	C	C
X-04-232	C	C
X-04-233	C	C
X-04-234	C	C
X-04-235	C	C
X-04-236	C	C
X-04-237	C	C
X-04-238	C	C
X-04-239	C	C
X-04-240	S	S
X-04-241	S	S
X-04-242	C	C
X-04-243	S	S
X-04-244	C	C
X-04-245	C	C
X-04-246	C	C
X-04-247	S	S
X-04-248	C	C
X-04-249	C	C
X-04-250	S	S
X-04-251	C	C
X-04-252	C	C
X-04-253	C	C
X-04-254	C	C
X-04-255	C	C
X-04-256	C	C
X-04-257	C	C
X-04-258	C	C
X-04-259	C	C
X-04-260	C	C
X-04-261	C	C
X-04-262	C	C
X-04-263	C	C
D-05-001	C	C
D-05-002	S	S
D-05-003	S	C
D-05-004	S	S
D-05-005	S	S
D-05-006	C	S
D-05-007	S	S
D-05-008	C	S
D-05-009	S	S
D-05-010	C	C
D-05-011	C	S
D-05-012	S	S
D-05-013	C	C
D-05-014	S	S
D-05-015	S	S
D-05-016	C	C
D-05-017	S	C
D-05-018	S	S
D-05-019	C	S
D-05-020	S	S
D-05-021	S	S
D-05-022	S	S
D-05-023	S	C
D-05-024	C	C
D-05-025	C	C
D-05-026	C	C
D-05-027	C	C
W-05-001	S	S
W-05-002	S	S
W-05-003	S	S
W-05-004	S	S
W-05-005	S	S
W-05-006	S	S
W-05-007	S	S
W-05-008	C	C
W-05-009	S	S
W-05-010	S	C
W-05-011	S	S
W-05-012	C	C
W-05-013	C	C
W-05-014	S	S
W-05-015	C	C
W-05-016	S	S
W-05-017	C	C
W-05-018	S	S
W-05-019	S	S
W-05-020	C	C
W-05-021	S	C
W-05-022	C	C
W-05-023	S	S
W-05-024	S	S
W-05-025	S	S
W-05-026	S	S
W-05-027	S	S
W-05-028	C	C
W-05-029	S	S
W-05-030	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
W-05-031	S	S
W-05-032	S	S
W-05-033	S	S
W-05-034	S	S
W-05-035	S	S
W-05-036	S	S
W-05-037	S	S
W-05-038	S	S
W-05-039	S	S
W-05-040	S	S
W-05-041	S	S
W-05-042	S	S
W-05-043	S	S
W-05-044	S	S
W-05-045	S	S
W-05-046	S	S
W-05-047	S	S
W-05-048	S	S
W-05-049	S	S
W-05-050	S	S
W-05-051	S	S
W-05-052	S	S
W-05-053	S	C
W-05-054	S	S
W-05-055	C	C
W-05-056	C	C
W-05-057	S	S
W-05-058	C	C
W-05-059	C	C
W-05-060	S	C
W-05-061	C	C
W-05-062	S	S
W-05-063	S	S
W-05-064	S	S

Site Number	Habitat Complexity	
	Upstream	Downstream
W-05-065	C	C
W-05-066	C	C
W-05-067	S	S
W-05-068	S	S
W-05-069	S	S
W-05-070	S	S
W-05-071	S	S
W-05-072	S	S
W-05-073	S	S
W-05-074	C	C
W-05-075	S	S
W-05-076	S	S
W-05-077	C	C
W-05-078	S	S
W-05-079	S	S
W-05-080	C	C
W-05-081	S	S
W-05-082	S	S
W-05-083	C	C
W-05-084	S	C
W-05-085	C	S
W-05-086	S	S
W-05-087	S	S
W-05-088	S	S
W-05-089	C	C
W-05-090	C	C
W-05-091	S	S
W-05-092	C	C
W-05-093	S	S
W-05-094	C	C
W-05-095	S	S
W-05-096	S	S
W-05-097	C	C
W-05-098	C	C

Site Number	Habitat Complexity	
	Upstream	Downstream
W-05-099	S	S
W-05-100	S	C
W-05-101	S	S
W-05-102	S	C
W-05-103	S	S
W-05-104	S	S
W-05-105	C	C
W-05-106	C	C
W-05-107	C	C
W-05-108	C	C
W-05-109	C	C
W-05-110	S	S
W-05-111	S	S
W-05-112	C	C
W-05-113	S	S
W-05-114	S	C
W-05-115	C	C
W-05-116	C	C
W-05-117	C	C
W-05-118	C	C
W-05-119	C	C
W-05-120	S	S
W-05-121	S	S
W-05-122	S	S
W-05-123	C	C
W-05-124	C	C
W-05-125	C	C
W-05-126	C	C
W-05-127	C	C
W-05-128	S	S
W-05-129	S	S
W-05-130	S	S
W-05-131	S	S
W-05-132	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
W-05-133	S	S
W-05-134	C	C
W-05-135	C	C
W-05-136	C	C
W-05-137	C	C
W-05-138	S	C
W-05-139	C	C
W-05-140	C	C
W-05-141	S	S
W-05-142	S	S
W-05-143	C	C
W-05-144	C	C
W-05-145	C	C
W-05-146	C	C
W-05-147	C	C
W-05-148	C	C
W-05-149	C	C
W-05-150	C	C
W-05-151	C	C
W-05-152	C	C
W-05-153	C	C
W-05-154	C	C
W-05-155	C	C
W-05-156	C	C
W-05-157	C	C
W-05-158	C	C
W-05-159	C	C
W-05-160	C	C
W-05-161	C	C
W-05-162	C	C
W-05-163	S	S
W-05-164	C	C
W-05-165	C	C
W-05-166	C	C
W-05-167	C	C
W-05-168	C	C
W-05-169	C	C
W-05-170	C	C
W-05-171	C	C
W-05-172	C	C
W-05-173	C	C
W-05-174	S	S
W-05-175	C	C
W-05-176	S	S
W-05-177	S	S
W-05-178	S	S
W-05-179	S	S
W-05-180	S	S
W-05-181	S	S
W-05-182	S	S
W-05-183	S	S
W-05-184	C	C
W-05-185	C	C
W-05-186	C	C
W-05-187	C	C
W-05-188	S	S
W-05-189	S	S
W-05-190	S	S
W-05-191	S	S
W-05-192	S	S
W-05-193	S	S
W-05-194	S	S
W-05-195	S	S
W-05-196	S	S
W-05-197	C	C
W-05-198	S	S
W-05-199	S	S
W-05-200	S	S
W-05-201	S	S
W-05-202	S	S
W-05-203	C	C
W-05-204	C	C
W-05-205	C	C
W-05-206	S	S
W-05-207	S	S
W-05-208	C	C
W-05-209	C	C
W-05-210	S	S
W-05-211	S	S
X-05-001	C	C
X-05-002	C	C
X-05-003	S	S
X-05-004	S	S
X-05-005	S	S
X-05-006	S	S
X-05-007	S	S
X-05-008	S	S
X-05-009	S	S
X-05-010	S	S
X-05-011	S	S
X-05-012	S	S
X-05-013	S	S
X-05-014	S	S
X-05-015	S	S
X-05-016	S	S
X-05-017	S	S
X-05-018	C	C
X-05-019	S	S
X-05-020	S	S
X-05-021	S	C
X-05-022	S	S
X-05-023	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
X-05-024	S	S
X-05-025	S	S
X-05-026	C	C
X-05-027	S	S
X-05-028	S	S
X-05-029	C	S
X-05-030	C	C
X-05-031	S	S
X-05-032	S	S
X-05-033	S	S
X-05-034	S	S
X-05-035	S	S
X-05-036	S	S
X-05-037	S	S
X-05-038	S	C
X-05-039	S	S
X-05-040	S	S
X-05-041	S	S
X-05-042	S	S
X-05-043	C	C
X-05-044	S	S
X-05-045	C	C
X-05-046	C	C
X-05-047	S	S
X-05-048	S	S
X-05-049	S	S
X-05-050	S	S
X-05-051	S	S
X-05-052	S	S
X-05-053	S	S
X-05-054	S	S
X-05-055	S	C
X-05-056	S	S
X-05-057	S	S
X-05-058	C	C
X-05-059	C	C
X-05-060	C	C
X-05-061	C	C
X-05-062	C	C
X-05-063	C	C
X-05-064	S	S
X-05-065	S	S
X-05-066	S	S
X-05-067	C	C
X-05-068	S	S
X-05-069	S	S
X-05-070	S	S
X-05-071	S	S
X-05-072	S	S
X-05-073	S	S
X-05-074	S	S
X-05-075	S	S
X-05-076	S	S
X-05-077	C	C
X-05-078	S	S
X-05-079	S	S
X-05-080	S	S
X-05-081	S	S
X-05-082	S	S
X-05-083	S	C
X-05-084	S	S
X-05-085	S	S
X-05-086	S	S
X-05-087	S	S
X-05-088	S	S
X-05-089	S	S
X-05-090	C	S
X-05-091	C	C
X-05-092	C	C
X-05-093	S	S
X-05-094	S	S
X-05-095	S	S
X-05-096	S	S
X-05-097	S	S
X-05-098	S	S
X-05-099	S	S
X-05-100	S	S
X-05-101	C	S
X-05-102	S	S
X-05-103	C	C
X-05-104	C	C
X-05-105	C	C
X-05-106	C	C
X-05-107	S	S
X-05-108	C	C
X-05-109	S	C
X-05-110	C	C
X-05-111	C	C
X-05-112	S	S
X-05-113	S	S
X-05-114	C	C
X-05-115	S	S
X-05-116	S	S
X-05-117	S	S
X-05-118	S	S
X-05-119	S	S
X-05-120	S	C
X-05-121	S	S
X-05-122	C	C
X-05-123	C	C
X-05-124	S	S
X-05-125	C	C

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
X-05-126	C	C
X-05-127	C	C
X-05-128	C	C
X-05-129	S	S
X-05-130	S	S
X-05-131	C	C
X-05-132	S	C
X-05-133	C	C
X-05-134	S	S
X-05-135	S	S
X-05-136	S	S
X-05-137	C	C
X-05-138	S	S
X-05-139	S	S
X-05-140	C	C
X-05-141	S	S
X-05-142	S	S
X-05-143	S	S
X-05-144	C	C
X-05-145	C	C
X-05-146	C	C
X-05-147	C	C
X-05-148	S	S
X-05-149	S	S
X-05-150	C	C
X-05-151	C	C
X-05-152	S	S
X-05-153	C	C
X-05-154	C	C
X-05-155	C	C
X-05-156	S	S
X-05-157	S	S
X-05-158	S	S
X-05-159	S	S
X-05-160	S	S
X-05-161	S	S
X-05-162	S	S
X-05-163	C	C
X-05-164	C	C
X-05-165	S	S
X-05-166	S	S
X-05-167	S	S
X-05-168	C	C
X-05-169	S	C
X-05-170	C	C
X-05-171	C	C
X-05-172	S	S
X-05-173	S	S
X-05-174	C	C
X-05-175	S	S
X-05-176	C	C
X-05-177	C	C
X-05-178	S	C
X-05-179	S	C
X-05-180	C	C
X-05-181	S	S
X-05-182	S	S
X-05-183	S	S
X-05-184	S	S
X-05-185	S	S
X-05-186	S	S
X-05-187	S	S
X-05-188	S	S
X-05-189	S	S
X-05-190	S	S
X-05-191	C	C
X-05-192	C	C
X-05-193	C	C
X-05-194	C	C
X-05-195	S	S
X-05-196	S	S
X-05-197	S	S
X-05-198	C	C
X-05-199	C	C
X-05-200	C	C
X-05-201	S	S
X-05-202	S	S
X-05-203	C	C
X-05-204	S	S
X-05-205	C	S
X-05-206	S	S
X-05-207	S	S
X-05-208	S	S
X-05-209	C	C
X-05-210	C	C
D-06-001	S	S
W-06-001	C	C
W-06-002	C	C
W-06-003	C	C
W-06-004	C	C
W-06-005	C	C
W-06-006	C	C
W-06-007	C	C
W-06-008	S	S
W-06-009	S	S
W-06-010	S	S
W-06-011	C	C
W-06-012	C	C
W-06-013	C	C
W-06-014	C	C
W-06-015	C	C
W-06-016	S	S

Appendix 2. **Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.**

Site Number	Habitat Complexity	
	Upstream	Downstream
W-06-017	S	S
W-06-018	S	S
W-06-019	S	S
W-06-020	C	S
W-06-021	S	S
W-06-022	S	S
W-06-023	C	C
W-06-024	S	S
W-06-025	S	S
W-06-026	S	S
W-06-027	S	S
W-06-028	C	C
W-06-029	S	S
W-06-030	S	S
W-06-031	S	S
W-06-032	C	C
W-06-033	C	C
W-06-034	C	C
W-06-035	C	C
W-06-036	S	C
W-06-037	S	C
W-06-038	C	C
W-06-039	C	C
W-06-040	C	S
W-06-041	S	S
W-06-042	S	S
W-06-043	C	C
W-06-044	S	S
W-06-045	C	C
W-06-046	S	S
W-06-047	S	S
W-06-048	S	S
W-06-049	C	C
W-06-050	C	C
W-06-051	C	C
W-06-052	S	C
W-06-053	S	S
W-06-054	S	S
W-06-055	S	S
W-06-056	C	C
W-06-057	S	S
W-06-058	S	S
W-06-059	S	S
W-06-060	S	S
W-06-061	C	C
W-06-062	S	S
W-06-063	S	S
W-06-064	S	S
W-06-065	C	C
W-06-066	C	C
W-06-067	C	C
W-06-068	C	C
W-06-069	C	C
W-06-070	C	C
W-06-071	C	C
W-06-072	C	C
W-06-073	C	C
W-06-074	C	C
W-06-075	C	C
W-06-076	C	C
W-06-077	C	C
W-06-078	C	C
W-06-079	C	C
W-06-080	C	C
W-06-081	S	S
W-06-082	S	S
W-06-083	C	C
W-06-084	C	C
W-06-085	C	C
W-06-086	C	C
W-06-087	C	C
W-06-088	C	C
W-06-089	C	C
W-06-090	C	C
W-06-091	C	C
W-06-092	C	C
W-06-093	C	C
W-06-094	S	S
W-06-095	S	S
W-06-096	S	S
W-06-097	S	S
W-06-098	S	S
W-06-099	S	S
W-06-100	S	S
W-06-101	S	S
W-06-102	S	S
W-06-103	S	S
W-06-104	S	S
W-06-105	S	S
W-06-106	S	S
W-06-107	C	S
W-06-108	S	S
W-06-109	S	S
W-06-110	C	C
W-06-111	C	C
W-06-112	C	C
W-06-113	C	C
W-06-114	C	C
W-06-115	C	C
W-06-116	C	C
W-06-117	C	C
W-06-118	S	C

Appendix 2. Habitat complexity (S = Simple; C = Complex) determination for all sites looking upstream and downstream from each surveyed reach.

Site Number	Habitat Complexity	
	Upstream	Downstream
W-06-119	C	C
W-06-120	S	S
W-06-121	C	C
W-06-122	S	S
W-06-123	S	S
W-06-124	C	C
W-06-125	C	C
W-06-126	C	C
W-06-127	C	C
W-06-128	C	C
W-06-129	C	C
W-06-130	C	C
W-06-131	C	C
W-06-132	S	C
W-06-133	C	C
W-06-134	C	C
W-06-135	C	C
W-06-136	C	C
W-06-137	S	S
W-06-138	C	C
W-06-139	C	C
W-06-140	C	C
W-06-141	C	C
W-06-142	C	C
W-06-143	S	S
W-06-144	C	C
W-06-145	C	C
W-06-146	C	C

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
D-02-005	12	10	11	5	8	17	14	8	8	9	9	5	4	11	10	141
D-02-008	11	6	13	8	6	8	6	9	9	5	5	5	5	13	13	122
D-02-009	10	13	18	13	8	7	8	9	7	5	8	7	7	10	16	146
D-02-013	3	3	5	3	8	6	6	1	6	1	5	1	6	7	11	72
D-02-014	8	8	5	5	8	3	3	9	9	9	9	4	4	13	0	97
D-02-015	8	0	9	8	10	13	16	9	9	9	9	6	6	15	11	138
D-02-018	9	5	11	8	7	7	7	9	9	4	4	4	5	13	8	110
D-02-026	7	13	12	5	6	7	2	4	2	1	3	1	1	6	5	75
D-02-027	8	7	12	8	8	16	9	9	9	5	4	2	2	13	13	125
D-02-028	17	15	17	16	14	18	18	9	9	9	9	9	9	18	18	205
D-02-031	10	9	8	11	6	8	13	2	7	5	4	3	3	16	7	112
D-02-033	12	12	10	11	11	8	5	7	7	6	7	3	3	11	11	124
D-02-036	7	3	6	11	16	8	4	9	9	9	9	4	4	13	11	123
D-02-043	11	10	13	13	6	12	12	6	7	7	7	3	3	15	13	138
D-02-044	11	12	16	12	7	11	12	9	9	5	5	2	2	14	16	143
D-02-045	6	3	12	5	8	8	10	4	4	5	5	6	6	8	7	97
D-02-056	3	3	13	5	8	10	8	7	7	5	5	6	6	7	8	101
D-02-067	4	6	8	8	6	6	3	8	8	3	3	4	4	8	4	83
D-02-068	8	8	8	10	8	8	3	9	9	5	5	2	2	11	6	102
D-02-069	8	5	11	8	8	8	5	8	8	5	5	4	4	11	8	106
D-02-071	12	12	12	13	9	16	16	4	4	8	8	6	6	16	5	147
D-02-075	3	3	10	6	7	2	4	6	6	4	4	4	4	6	6	75
D-02-078	17	15	16	12	10	15	17	7	7	9	9	7	7	17	16	181
D-02-081	16	13	18	16	11	16	16	7	7	8	5	6	4	18	16	177
D-02-084	6	4	8	6	8	6	4	7	6	4	4	5	5	11	6	90

Appendix 3: Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
D-02-088	4	5	5	11	5	8	4	7	7	7	7	4	5	11	4	94
D-02-089	5	1	3	5	8	8	3	9	9	4	4	6	6	11	5	87
D-02-092	8	8	7	6	8	9	5	8	8	6	6	5	5	11	6	106
D-02-093	18	18	18	13	8	13	16	6	6	8	8	4	7	17	17	177
D-02-094	6	4	6	8	8	8	4	9	9	5	5	5	3	13	6	99
D-02-095	8	3	6	6	9	8	5	6	6	2	2	5	5	13	8	92
D-02-096	5	3	7	6	6	7	3	9	9	4	4	3	3	8	5	82
D-02-100	5	1	6	8	8	8	5	5	5	5	5	5	5	3	11	85
D-02-101	5	2	7	9	8	8	6	5	5	4	4	4	4	6	11	88
D-02-102	5	3	7	10	8	8	5	7	7	5	5	5	5	5	11	96
D-02-104	16	15	16	15	18	16	16	9	9	9	9	7	7	18	13	193
D-02-108	13	8	17	13	17	16	12	7	7	8	8	5	6	14	12	163
D-02-111	11	7	16	9	10	15	10	4	5	8	8	8	8	7	9	135
D-02-116	6	6	5	8	7	13	5	9	9	6	6	6	7	7	3	103
D-02-118	8	6	6	6	3	13	5	9	9	6	6	4	4	8	3	96
D-02-119	10	15	8	16	6	13	6	9	9	7	7	6	6	5	4	127
D-02-121	8	11	8	14	8	10	8	9	9	7	7	6	6	12	4	127
D-02-122	15	10	16	12	7	13	9	9	9	3	3	2	2	16	16	142
D-02-125	14	10	17	13	8	11	7	9	9	8	7	9	8	14	13	157
D-02-126	4	5	7	8	6	6	3	1	2	1	2	1	1	7	33	87
D-02-127	16	13	17	11	15	15	15	9	10	9	9	9	9	16	16	189
D-02-130	6	3	11	5	8	8	4	8	8	7	7	6	6	12	7	106
D-02-131	6	3	5	8	8	9	4	9	9	7	7	1	1	8	11	96
D-02-132	5	5	4	5	5	8	5	9	9	9	8	5	5	10	6	98
D-02-135	11	8	11	7	8	10	6	9	9	8	8	6	6	12	8	127

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
D-02-137	10	10	13	10	8	8	8	8	8	5	5	6	6	16	7	128
D-02-139	18	18	18	18	13	18	18	10	10	10	10	10	10	18	8	207
D-02-142	16	15	17	15	7	15	13	8	8	8	8	7	7	16	17	177
D-02-147	5	5	6	6	3	6	2	5	5	6	6	5	3	13	11	87
D-02-149	15	12	13	13	7	15	8	8	8	7	7	8	8	16	11	156
D-02-160	13	13	16	8	10	11	15	2	6	4	7	3	6	16	16	146
D-02-161	6	5	10	5	8	8	8	6	3	1	3	2	3	8	8	84
D-02-164	9	8	8	8	6	16	16	9	9	8	9	6	8	8	8	136
D-02-167	10	8	8	8	5	15	16	7	5	7	7	8	7	6	4	121
D-02-170	11	10	13	10	8	14	9	8	8	9	7	8	5	8	8	136
D-02-171	12	8	13	11	10	17	11	9	9	9	9	8	8	8	8	150
D-02-173	14	9	16	8	11	15	13	8	8	8	8	8	8	8	8	150
D-02-178	10	3	7	8	6	10	5	5	7	6	8	5	7	8	8	103
D-02-179	12	8	16	8	7	13	14	8	8	5	5	5	5	13	9	136
D-02-180	8	8	13	8	9	8	11	8	8	5	5	4	4	7	6	112
D-02-181	15	8	18	8	10	16	16	7	7	9	6	9	6	13	8	156
D-02-182	3	1	3	3	6	6	3	6	6	5	6	5	4	13	11	81
D-02-183	13	15	13	11	8	15	18	5	5	9	8	8	8	16	8	160
D-02-184	3	3	8	2	9	8	12	6	7	6	6	8	8	6	8	100
D-02-185	8	3	2	3	3	13	2	5	7	6	8	2	5	8	11	86
D-02-188	7	3	1	8	1	8	3	7	7	6	6	6	6	10	10	89
D-02-190	6	3	6	3	6	13	3	7	5	5	7	4	5	12	8	93
D-02-191	13	13	15	8	7	13	13	5	8	8	6	8	7	10	15	149
D-02-192	7	5	8	6	6	11	2	1	1	1	1	1	1	7	2	60
D-02-193	5	3	7	8	7	7	5	6	6	4	4	3	3	3	4	75

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
D-02-195	8	2	12	8	14	15	15	7	7	9	9	9	9	8	7	139
D-02-196	15	14	19	13	18	16	19	8	8	6	5	5	5	15	19	185
D-02-197	14	14	18	12	7	14	13	2	6	3	6	3	6	11	13	142
D-02-198	10	10	11	10	8	8	8	3	3	6	4	2	3	8	13	107
D-02-199	12	8	16	10	11	17	17	7	5	6	6	5	5	8	16	149
D-02-200	11	13	16	10	16	15	16	6	6	6	6	6	6	16	16	165
D-02-201	8	6	6	5	5	13	5	7	7	5	5	4	4	11	11	102
B-03-001	10	7	12	7	17	15	13	9	9	9	9	8	8	10	13	156
B-03-003	6	5	6	5	5	12	5	5	6	3	3	3	3	9	6	82
B-03-004	10	9	11	11	18	15	8	8	8	8	8	8	8	16	10	156
B-03-005	16	12	18	9	8	14	13	8	8	7	8	9	9	14	16	169
B-03-007	8	6	7	3	13	5	3	5	1	3	0	3	1	13	11	82
B-03-009	8	10	8	9	10	12	3	8	8	7	7	7	4	13	14	128
B-03-012	6	3	9	6	10	11	5	5	7	5	6	3	3	10	5	94
B-03-013	11	10	14	12	11	13	8	6	4	6	3	6	4	16	16	140
B-03-015	8	3	3	8	13	13	1	7	7	5	3	4	3	8	14	100
B-03-016	10	8	11	7	13	15	7	6	8	3	6	6	6	14	12	132
B-03-017	15	11	16	9	7	11	13	4	6	7	7	4	7	19	18	154
B-03-019	9	8	8	8	5	13	4	5	4	4	4	7	7	8	14	108
B-03-020	8	4	6	11	8	18	1	7	7	5	4	4	5	14	6	108
B-03-026	18	10	13	11	10	18	16	8	9	9	9	9	9	13	16	178
B-03-028	10	8	13	6	7	16	14	4	3	3	3	3	3	9	8	110
B-03-030	10	9	7	9	5	11	6	3	4	3	3	4	4	14	11	103
B-03-031	11	11	15	9	15	16	13	7	6	6	6	4	6	16	16	157
B-03-033	14	14	14	17	15	17	15	6	6	6	4	6	6	13	18	171

Appendix 3: Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-03-035	12	7	4	10	10	12	3	4	3	3	3	6	3	16	13	109
B-03-040	13	15	10	9	8	14	19	4	4	5	8	6	7	16	10	148
B-03-041	14	11	13	11	13	11	11	8	7	6	5	8	5	18	16	157
B-03-048	6	8	7	6	8	12	3	5	7	5	5	5	5	11	12	105
B-03-050	11	11	5	11	11	13	5	8	7	8	7	8	6	18	12	141
B-03-052	16	14	13	20	10	13	16	7	3	6	9	8	5	16	18	174
B-03-053	10	16	9	16	8	16	9	8	8	7	7	7	7	16	6	150
B-03-055	13	10	8	7	7	17	15	2	2	9	8	9	8	10	8	133
B-03-060	14	10	18	9	17	14	13	8	8	9	7	9	7	16	18	177
B-03-061	11	8	13	10	11	13	10	5	7	6	7	6	7	12	12	138
B-03-062	16	13	16	13	14	12	10	8	8	8	8	4	5	13	16	164
B-03-064	15	13	13	8	6	16	18	2	2	5	5	6	6	13	16	144
B-03-065	8	7	12	6	6	7	8	6	6	5	5	5	5	16	16	118
B-03-067	10	11	3	7	13	9	3	6	6	4	4	2	5	11	11	105
B-03-070	16	16	18	10	13	13	18	7	7	9	9	9	9	18	18	190
B-03-071	3	3	9	7	7	3	11	7	7	3	3	1	1	8	3	76
B-03-075	13	11	8	8	7	16	5	9	9	6	6	9	8	10	5	130
B-03-076	16	12	11	13	10	14	7	7	7	9	9	6	6	15	18	160
B-03-077	15	15	16	10	7	13	16	8	8	7	7	8	8	19	19	176
B-03-083	8	3	6	8	14	4	4	7	7	7	7	7	7	16	11	116
B-03-084	8	3	6	15	10	4	4	7	7	7	7	7	7	18	11	121
B-03-085	8	3	6	6	14	4	3	7	7	7	7	7	7	12	11	109
B-03-086	8	3	6	10	15	4	3	7	7	7	7	7	7	12	11	114
B-03-087	10	6	3	8	18	8	3	5	5	4	4	4	4	13	14	109
B-03-088	11	6	10	11	11	13	3	7	7	8	8	7	6	6	13	127

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-03-089	11	8	7	8	11	13	3	9	9	3	5	2	5	11	11	116
B-03-091	6	7	1	10	16	7	3	8	8	7	7	5	5	11	11	112
B-03-093	10	6	3	8	15	7	3	6	8	7	7	7	7	11	11	116
B-03-094	14	7	13	10	11	8	8	7	7	6	6	7	7	15	13	139
B-03-095	12	5	7	6	15	8	6	7	7	7	7	7	7	18	14	133
B-03-097	11	6	6	6	14	7	6	5	7	6	6	6	6	11	11	114
B-03-098	14	5	13	6	8	15	14	2	2	8	8	9	9	13	16	142
B-03-099	12	10	11	6	6	13	11	8	8	9	9	6	6	5	5	125
B-03-101	8	6	5	8	13	11	6	3	2	6	3	6	6	11	11	105
B-03-102	13	14	5	8	10	15	3	7	7	4	8	4	7	13	13	131
B-03-103	11	11	10	8	7	14	18	9	9	9	5	9	5	13	7	145
B-03-104	16	10	16	11	16	13	15	9	9	8	8	5	6	18	18	178
B-03-112	18	6	16	8	15	16	11	9	9	9	8	9	9	15	16	174
B-03-115	11	10	14	11	11	10	11	3	2	6	5	4	4	16	10	128
B-03-116	11	3	10	8	13	13	10	1	8	3	8	4	7	11	14	124
B-03-117	13	11	7	10	8	14	12	8	8	8	8	6	6	7	5	131
B-03-118	16	5	13	7	10	14	11	8	8	7	9	6	7	13	11	145
B-03-119	7	3	6	4	11	13	3	9	9	8	8	8	8	11	6	114
B-03-120	17	8	14	10	9	12	14	3	3	3	6	3	5	18	15	140
B-03-121	11	7	12	6	9	14	10	9	9	8	8	9	9	15	15	151
B-03-122	12	7	11	9	10	12	7	7	6	8	8	6	7	14	18	142
B-03-124	11	8	14	10	6	11	15	4	2	5	4	9	9	9	16	133
B-03-126	10	5	4	7	13	12	6	3	7	4	7	8	8	13	13	120
B-03-132	18	18	15	13	10	18	18	9	9	9	9	8	8	13	16	191
B-03-134	16	13	13	12	9	17	16	9	9	9	9	9	9	16	10	176

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-03-141	7	11	2	7	2	12	5	4	4	4	4	4	4	17	13	100
B-03-142	9	8	2	7	2	11	6	4	4	4	4	6	6	18	13	104
B-03-143	13	8	3	6	5	12	5	2	2	5	5	7	7	17	15	112
B-03-145	11	11	1	11	6	13	3	7	6	6	5	6	2	14	11	113
B-03-148	6	7	6	7	6	11	5	3	3	3	3	5	5	11	6	87
B-03-150	8	8	3	6	3	12	3	2	7	3	5	6	6	13	13	98
B-03-151	13	13	11	10	10	15	18	2	2	8	8	8	8	9	9	144
B-03-152	14	17	16	6	7	12	18	2	2	6	6	7	7	14	10	144
B-03-158	11	11	2	10	10	13	6	6	8	8	8	6	6	11	12	128
B-03-159	11	10	8	8	5	14	11	2	2	3	3	5	5	13	13	113
B-03-160	7	7	8	7	2	11	5	5	3	6	4	6	6	12	10	99
B-03-163	14	11	13	16	10	13	11	7	7	9	6	9	4	13	13	156
B-03-181	14	12	13	9	9	14	13	6	5	9	8	9	6	11	14	152
B-03-182	10	10	11	10	10	8	6	7	8	7	8	4	4	16	16	135
B-03-183	8	6	5	7	8	8	5	5	5	6	6	4	4	8	11	96
B-03-184	12	7	6	7	10	11	5	7	7	5	5	5	5	10	8	110
B-03-185	16	13	18	8	10	13	14	6	8	7	8	7	8	18	18	172
B-03-189	13	4	4	8	6	8	5	7	7	4	4	4	4	11	6	95
B-03-190	9	10	4	7	8	14	5	9	9	4	7	3	7	11	12	119
B-03-191	10	7	11	7	7	6	6	8	8	6	6	6	6	14	8	116
B-03-192	11	11	16	15	11	7	5	8	8	5	7	4	7	16	13	144
B-03-193	14	11	8	8	16	13	9	7	7	8	8	8	6	13	14	150
B-03-194	12	8	7	8	6	13	6	7	7	6	6	6	6	12	12	122
B-03-199	8	3	3	11	3	8	3	6	6	4	4	4	4	8	3	78
B-03-200	13	8	14	7	7	11	13	2	2	8	3	8	3	7	8	114

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-03-202	13	8	9	8	14	13	6	8	8	7	7	7	7	15	13	143
B-03-204	10	9	3	9	10	6	6	6	6	6	6	6	6	12	6	107
B-03-206	13	8	13	8	10	7	4	5	5	4	4	4	4	14	11	114
B-03-207	11	7	8	8	6	8	12	7	7	4	4	4	4	11	7	108
B-03-209	13	14	15	12	8	13	16	1	1	1	1	2	2	13	14	126
B-03-212	14	12	13	13	8	10	15	4	4	5	5	5	5	15	15	143
B-03-224	17	15	12	10	6	15	13	8	8	9	9	8	8	14	12	164
B-03-226	10	8	9	9	8	7	5	2	2	3	6	6	4	13	10	102
B-03-229	10	10	6	10	8	8	5	6	6	6	6	6	6	11	8	112
B-03-235	13	12	3	8	4	8	5	6	6	5	5	6	6	11	3	101
B-03-239	10	6	3	7	11	7	5	5	5	2	2	3	3	14	12	95
B-03-241	9	7	6	7	4	6	4	5	5	4	4	3	3	11	7	85
D-03-001	11	16	16	13	16	13	11	7	6	6	8	5	6	11	13	158
D-03-002	18	17	18	12	14	14	19	8	6	9	8	9	8	18	18	196
D-03-003	12	16	11	13	18	8	8	7	7	3	3	2	2	16	7	133
D-03-004	8	5	11	8	13	14	8	7	8	6	7	7	8	12	12	134
D-03-005	11	7	13	6	11	7	13	9	9	7	6	5	5	7	8	124
D-03-006	8	8	14	8	7	14	11	3	3	2	2	5	5	7	12	109
D-03-009	4	14	8	10	5	8	3	7	7	3	3	3	3	8	13	99
D-03-010	10	8	8	8	6	10	10	6	6	4	5	4	4	8	6	103
D-03-011	15	13	18	13	14	13	17	9	9	7	7	9	8	14	18	184
D-03-012	10	6	11	8	13	13	15	6	5	3	3	3	4	13	6	119
D-03-015	12	8	13	8	15	8	8	8	8	7	7	7	7	9	10	135
D-03-016	14	14	16	9	13	10	16	9	9	9	9	7	7	8	8	158
D-03-017	8	7	9	3	8	16	16	9	9	9	9	8	7	7	6	131

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
D-03-019	15	5	8	8	19	8	3	7	7	7	7	3	5	13	15	130
D-03-023	10	3	7	8	8	6	8	9	9	6	6	5	5	8	6	104
D-03-024	8	6	11	8	8	8	6	3	3	4	4	4	4	10	13	100
D-03-025	14	8	13	5	8	14	13	7	7	7	5	5	4	8	11	129
D-03-026	11	10	8	8	10	15	13	6	6	3	4	5	5	7	11	122
D-03-027	7	3	3	8	5	11	3	9	9	8	8	5	4	6	13	102
D-03-029	10	5	8	6	7	14	11	3	7	6	6	5	5	5	8	106
D-03-035	10	6	8	8	6	14	10	9	8	5	5	6	6	11	13	125
D-03-036	16	11	18	9	11	14	16	8	5	4	9	6	8	11	18	164
D-03-037	11	8	12	8	13	18	16	8	8	8	8	7	6	16	8	155
D-03-038	18	16	19	19	16	13	18	8	9	7	8	9	6	18	18	202
D-03-040	10	5	9	10	13	13	6	5	8	4	4	3	3	6	11	110
D-03-041	5	3	11	5	13	13	6	3	1	3	1	4	4	3	8	83
D-03-044	11	8	14	10	14	8	8	6	8	7	6	5	5	11	12	133
D-03-045	8	3	11	11	16	8	5	8	8	6	4	5	3	13	11	120
D-03-047	12	5	13	8	16	8	5	8	8	5	5	5	5	13	13	129
D-03-049	6	6	9	7	13	6	8	8	8	6	6	5	5	10	11	114
D-03-054	3	3	1	8	6	6	3	1	2	1	2	2	2	6	3	49
D-03-057	10	8	12	13	7	16	8	9	8	9	7	8	5	16	13	149
D-03-058	11	11	16	8	10	8	11	4	4	4	4	4	4	11	11	121
D-03-059	10	10	14	5	10	8	11	7	8	4	5	5	5	11	11	124
D-03-060	13	6	9	8	8	15	13	9	9	8	8	5	5	14	8	138
D-03-061	13	13	16	10	17	13	16	7	8	7	7	6	6	16	16	171
D-03-062	18	16	16	15	16	17	16	9	9	9	9	7	7	13	16	193
D-03-064	15	13	13	13	13	13	15	8	8	6	6	5	5	16	13	162

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
D-03-065	10	8	14	8	11	8	8	8	8	5	5	4	5	13	13	128
D-03-066	18	13	16	13	13	18	14	9	9	9	9	9	9	15	16	190
D-03-067	16	14	17	8	15	16	16	9	9	9	9	9	7	16	17	187
D-03-071	16	11	6	12	8	15	15	9	9	9	9	8	8	16	13	164
D-03-073	13	8	12	11	11	11	11	9	9	9	9	8	8	15	13	157
D-03-075	12	7	8	8	5	16	8	8	8	6	7	7	8	8	13	129
D-03-076	11	8	8	8	5	16	8	8	8	6	6	6	6	8	13	125
D-03-078	11	5	5	5	5	15	8	8	8	7	7	7	7	14	13	125
D-03-081	15	11	16	13	9	15	10	5	7	6	6	6	6	11	16	152
D-03-083	15	6	6	10	3	13	6	7	7	8	8	6	6	14	14	129
D-03-084	3	3	11	6	5	16	15	9	9	6	6	8	8	11	16	132
D-03-085	13	13	16	13	11	15	15	8	8	8	8	7	7	11	16	169
D-03-086	11	8	12	8	6	15	11	6	6	9	9	7	7	13	16	144
D-03-088	18	18	18	16	18	15	16	9	8	9	8	8	6	18	18	203
D-03-089	16	13	17	12	15	16	14	8	7	7	6	7	7	16	17	178
D-03-091	16	8	16	11	10	13	11	9	9	8	8	7	7	16	16	165
D-03-094	11	3	2	8	3	13	8	9	9	9	9	7	6	11	12	120
D-03-095	16	3	3	9	3	13	6	9	9	9	9	7	6	13	14	129
D-03-096	11	3	11	7	8	11	7	6	6	7	7	6	6	14	16	126
D-03-097	10	10	17	10	13	12	15	8	6	9	9	7	7	16	17	166
D-03-098	10	5	8	6	5	13	7	6	6	5	5	5	5	11	13	110
D-03-100	11	5	6	8	5	13	6	8	8	8	8	8	8	11	11	124
D-03-101	13	8	15	14	8	13	13	8	9	9	9	9	9	16	11	164
D-03-102	11	5	11	8	5	13	10	9	9	7	6	6	3	13	13	129
D-03-103	10	11	11	10	6	10	10	9	9	7	5	6	3	10	10	127

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
D-03-110	11	2	6	6	5	14	5	6	6	8	8	8	8	13	13	119
D-03-111	11	3	6	6	6	13	7	6	5	9	9	9	9	8	9	116
D-03-117	12	7	16	10	6	15	13	7	8	7	8	7	7	13	15	151
D-03-121	16	11	17	8	12	11	16	9	9	9	9	7	7	15	10	166
D-03-122	11	8	13	8	10	15	14	9	6	9	8	9	6	8	8	142
D-03-124	10	5	11	6	7	10	5	5	5	5	5	5	5	5	8	97
D-03-126	8	5	6	5	5	8	5	8	8	5	5	5	5	7	8	93
D-03-132	10	6	11	8	10	13	11	8	6	8	8	8	8	15	8	138
D-03-134	10	5	7	5	6	10	5	6	7	6	6	5	5	8	10	101
D-03-138	8	5	5	5	6	7	5	8	8	5	8	7	5	11	13	106
D-03-142	17	13	16	13	17	18	17	9	9	9	9	10	10	13	17	197
D-03-143	17	6	16	8	15	14	14	7	8	9	9	8	8	13	9	161
D-03-144	11	14	13	13	7	15	12	9	9	9	9	9	9	16	6	161
D-03-145	18	7	13	7	9	15	17	8	9	9	9	10	10	13	9	163
D-03-152	17	13	12	12	14	13	10	9	9	9	7	9	5	17	13	169
D-03-154	12	16	14	13	13	14	16	5	8	9	9	9	9	7	4	158
D-03-155	11	7	6	7	14	12	5	9	9	7	7	6	6	13	8	127
D-03-156	11	14	10	14	6	13	11	9	9	7	7	6	6	16	3	142
D-03-164	13	10	14	9	7	10	11	7	7	7	7	8	8	11	10	139
D-03-167	11	11	12	8	8	15	15	8	8	9	9	9	9	16	9	157
D-03-168	11	5	18	2	15	10	11	8	8	9	9	7	7	11	13	144
D-03-169	16	5	6	16	16	16	13	9	9	9	9	9	9	13	13	168
D-03-170	18	8	18	13	18	13	15	9	9	8	8	8	8	16	16	185
W-03-001	7	3	4	6	15	8	7	7	8	4	4	2	2	8	3	88
W-03-002	7	6	8	6	15	6	6	6	5	4	3	2	1	8	3	86

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-03-003	8	3	7	5	8	13	8	9	9	9	7	7	3	7	13	116
W-03-004	6	5	8	8	16	11	8	8	8	7	7	6	6	13	13	130
W-03-008	5	8	2	5	5	8	3	5	9	6	6	4	4	13	3	86
W-03-009	5	3	11	7	11	15	11	5	4	4	4	8	8	6	6	108
W-03-010	12	6	12	6	10	8	2	5	6	3	4	1	1	13	9	98
W-03-013	10	10	13	10	11	7	10	4	4	8	6	6	5	11	8	123
W-03-019	9	2	8	2	6	8	3	9	9	5	5	6	6	13	6	97
W-03-020	8	5	3	12	5	1	2	6	5	5	3	3	3	11	2	74
W-03-026	2	2	2	4	2	5	6	7	7	5	5	2	5	9	2	65
W-03-030	11	8	4	8	5	6	2	9	7	5	4	6	6	12	3	96
W-03-035	7	6	3	7	6	8	8	7	7	5	5	3	3	12	4	91
W-03-036	5	5	3	3	6	5	4	6	5	4	4	6	6	6	4	72
W-03-044	15	5	3	8	5	12	8	4	3	7	7	5	4	6	2	94
W-03-046	18	11	5	11	16	13	10	9	9	9	9	9	9	15	8	161
W-03-049	11	11	5	11	16	11	4	9	9	5	7	5	8	14	14	140
W-03-050	19	14	15	14	15	15	13	4	4	8	8	8	8	15	14	174
W-03-055	10	2	5	8	13	6	1	9	9	6	6	3	3	13	13	107
W-03-064	19	3	5	4	10	15	10	8	8	8	8	8	8	12	15	141
W-03-065	13	6	5	5	15	14	8	8	8	7	7	5	5	13	13	132
W-03-066	17	16	13	16	15	15	12	9	9	9	9	9	9	16	10	184
W-03-067	8	10	3	16	16	12	10	9	9	6	6	6	6	13	1	131
W-03-069	15	9	5	9	15	14	10	8	7	8	8	8	8	15	15	154
W-03-070	11	11	15	5	6	11	10	4	4	5	5	7	7	13	11	125
W-03-072	13	13	13	10	6	6	3	6	6	6	6	4	4	13	9	118
W-03-077	15	14	10	13	11	11	8	6	7	8	8	8	8	13	13	153

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-03-079	16	7	19	8	14	14	18	4	7	8	8	8	9	16	13	169
W-03-080	11	10	14	5	13	11	8	8	8	7	7	7	5	11	10	135
W-03-084	8	16	2	16	16	10	8	9	9	6	6	2	2	11	3	124
W-03-087	14	16	5	10	15	14	8	8	8	7	7	9	9	17	10	157
W-03-088	13	5	7	8	13	11	8	8	8	7	7	4	4	9	8	120
W-03-091	8	5	8	7	4	12	10	6	6	3	3	6	6	11	5	100
W-03-092	17	10	16	9	11	14	14	8	6	6	6	10	10	16	11	164
W-03-093	15	15	15	16	16	10	5	9	9	8	8	9	9	16	10	170
W-03-094	18	18	8	18	19	15	8	9	9	9	9	10	10	18	15	193
W-03-095	18	18	14	18	16	15	13	9	9	9	9	10	10	18	13	199
W-03-096	13	10	1	5	12	10	5	7	7	8	8	9	8	13	15	131
W-03-097	19	16	12	13	13	15	15	9	9	9	9	10	10	16	14	189
W-03-098	15	13	8	15	15	15	7	8	8	9	9	10	10	15	15	172
W-03-100	13	5	5	5	11	15	7	6	6	3	9	2	8	13	12	120
W-03-101	16	15	15	15	16	15	15	9	9	9	9	8	8	16	10	185
W-03-104	15	16	8	13	18	6	12	9	9	6	6	4	4	13	5	144
W-03-107	18	9	18	10	11	14	13	6	6	8	9	8	8	13	11	162
W-03-110	11	2	8	5	13	13	11	6	5	8	6	8	6	11	5	118
W-03-111	12	1	1	2	13	17	6	8	8	7	7	9	9	7	1	108
W-03-112	17	16	8	9	13	15	15	1	1	8	8	6	6	8	2	133
W-03-113	11	5	5	5	16	10	5	8	8	7	7	8	8	15	5	123
W-03-114	16	13	6	7	16	13	10	9	9	9	9	7	9	13	5	151
W-03-141	9	5	3	10	11	10	1	8	8	8	8	7	7	10	3	108
W-03-142	11	16	2	15	15	11	1	7	6	6	6	5	5	18	1	125
W-03-143	10	5	1	8	11	8	2	7	7	6	6	4	4	11	3	93

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-03-144	13	15	10	15	15	10	13	5	8	7	7	8	8	13	10	157
W-03-146	16	15	15	15	11	15	10	8	8	8	8	8	8	15	15	175
W-03-150	13	13	10	11	15	11	7	8	8	8	8	6	8	15	5	146
W-03-151	15	16	18	13	18	15	15	9	9	9	9	10	10	13	13	192
W-03-154	17	10	5	10	18	15	15	9	9	8	10	6	10	15	15	172
W-03-155	16	15	15	10	16	13	11	8	8	9	9	10	10	15	13	178
W-03-158	13	10	10	10	16	8	5	8	8	8	8	4	4	11	10	133
W-03-162	16	15	10	13	13	15	11	8	8	9	9	8	8	15	5	163
W-03-163	16	16	15	15	13	15	13	8	8	8	9	6	9	13	14	178
W-03-165	17	16	14	13	13	13	15	8	5	8	8	9	9	16	8	172
W-03-167	11	3	3	3	13	13	8	8	8	7	7	5	5	13	13	120
W-03-172	16	15	1	18	18	15	14	9	9	9	9	10	10	14	15	182
W-03-173	13	8	6	16	13	13	8	8	8	8	8	7	8	11	9	144
W-03-176	13	7	3	0	13	8	3	1	1	7	7	10	10	6	3	92
W-03-182	12	3	5	16	13	9	8	8	8	7	7	2	3	13	13	127
W-03-185	13	13	4	10	13	6	5	6	6	6	6	5	5	13	3	114
W-03-186	18	18	1	11	1	14	11	5	5	7	7	9	9	11	1	128
W-03-189	12	18	5	16	8	8	6	8	8	8	8	5	5	16	8	139
W-03-191	10	13	9	14	13	8	3	7	7	6	6	6	6	13	3	124
W-03-194	12	13	3	8	13	13	6	6	6	7	7	9	9	13	5	130
W-03-195	16	9	1	8	20	13	12	8	8	9	9	9	9	13	14	158
W-03-198	19	13	13	8	18	15	16	9	9	9	9	9	9	16	13	185
W-03-201	13	8	6	8	13	15	8	9	9	9	9	10	10	13	8	148
W-03-203	12	13	8	6	7	11	13	2	2	4	4	9	9	13	3	116
W-03-204	13	5	8	5	12	14	8	8	8	9	9	9	8	13	8	137

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-03-205	11	8	8	8	12	11	11	5	5	7	7	9	9	13	8	132
W-03-206	9	4	3	3	8	11	4	7	7	6	6	5	5	13	3	94
W-03-210	8	8	8	5	8	10	4	5	5	5	5	4	4	11	5	95
W-03-211	9	8	8	3	11	10	4	6	6	6	6	6	6	11	6	106
W-03-223	11	5	2	3	2	9	2	6	6	6	6	2	2	11	3	76
W-03-224	8	3	8	3	7	7	6	4	2	3	2	3	3	8	3	70
W-03-229	13	2	13	3	13	11	7	7	7	7	7	2	2	11	6	111
W-03-237	13	14	13	13	8	11	7	6	5	7	7	2	6	13	8	133
W-03-238	14	16	15	13	13	15	11	8	8	6	9	2	8	13	8	159
W-03-239	14	18	8	15	13	13	13	8	8	8	8	8	8	13	7	162
W-03-247	16	11	5	8	6	14	7	4	4	7	7	9	9	13	3	123
W-03-248	8	5	3	6	10	11	1	8	8	6	6	1	1	11	2	87
W-03-249	11	11	3	10	6	9	4	8	8	8	8	9	9	11	6	121
W-03-251	7	3	8	5	6	6	3	7	7	6	6	2	3	13	5	87
W-03-266	13	8	3	8	13	10	4	8	8	8	8	2	2	13	2	110
W-03-267	10	13	4	10	17	8	3	8	8	7	7	3	3	13	5	119
B-03-249	12	12	4	10	15	11	7	8	8	5	5	4	4	15	13	133
B-04-002	5	2	2	7	3	5	2	7	6	5	5	2	2	7	4	64
B-04-003	8	7	8	8	6	6	5	4	6	5	5	3	3	13	15	102
B-04-004	8	6	7	8	6	7	3	7	7	4	4	7	7	11	8	100
B-04-006	10	10	6	6	2	8	5	7	7	6	6	3	3	15	8	102
B-04-008	11	4	16	7	14	15	9	6	6	8	8	8	6	11	16	145
B-04-010	5	6	9	5	7	3	4	4	7	2	4	2	4	7	8	77
B-04-011	9	7	6	6	5	9	4	3	3	3	3	5	3	13	6	85
B-04-017	15	12	10	9	9	13	8	4	4	8	8	9	9	9	13	140

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-04-018	10	6	2	6	11	16	2	8	7	8	8	6	6	12	12	120
B-04-019	8	6	12	7	12	5	2	3	5	5	5	2	2	6	16	96
B-04-020	5	5	6	8	5	8	5	4	6	5	5	2	2	5	5	76
B-04-021	7	6	4	4	5	5	2	4	4	2	2	2	2	11	4	64
B-04-022	9	11	4	6	8	10	9	7	7	6	6	4	4	13	10	114
B-04-026	7	6	11	8	9	13	9	4	5	6	7	6	6	14	14	125
B-04-027	6	2	11	3	9	15	10	2	3	5	8	8	8	11	16	117
B-04-028	4	5	13	14	12	5	6	5	5	2	2	4	4	6	16	103
B-04-030	13	3	13	6	14	10	6	6	8	8	8	3	3	12	10	123
B-04-031	10	10	6	11	8	11	6	2	2	6	6	7	6	11	13	115
B-04-037	15	11	14	13	8	16	11	7	7	7	7	6	6	13	16	157
B-04-041	8	11	6	11	12	11	4	7	7	5	6	3	5	8	13	117
B-04-043	11	11	2	8	13	10	5	5	5	5	5	4	5	16	11	116
B-04-044	13	6	11	7	13	16	8	6	6	8	7	8	7	13	16	145
B-04-046	10	10	9	11	6	13	7	4	3	4	3	9	9	8	8	114
B-04-047	16	16	20	11	11	19	19	5	5	3	3	5	5	16	18	172
B-04-048	6	5	6	5	8	15	11	5	6	6	6	5	6	7	8	105
B-04-055	11	11	16	11	11	13	16	8	8	6	7	6	9	16	16	165
B-04-058	16	13	13	13	8	15	9	8	8	9	9	6	7	16	16	166
B-04-060	11	6	9	7	6	10	4	8	5	7	5	5	5	9	8	105
B-04-064	17	12	16	11	11	16	6	3	3	9	7	9	7	15	11	153
B-04-066	7	8	3	10	6	7	2	7	7	6	4	6	4	12	11	100
B-04-070	7	8	11	15	8	11	8	8	7	8	5	2	5	13	10	126
B-04-078	11	10	8	8	8	13	3	5	5	6	5	6	4	11	6	109
B-04-086	8	11	6	8	3	8	3	6	4	8	3	5	2	11	13	99

Appendix 3: Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-04-093	8	12	11	11	13	16	10	3	4	2	2	2	2	13	16	125
B-04-094	10	9	16	9	16	13	8	8	8	7	6	7	6	13	16	152
B-04-095	16	11	16	11	16	16	16	6	8	7	7	7	7	16	16	176
B-04-101	11	11	5	15	19	10	6	8	8	5	5	4	4	13	13	137
B-04-102	11	7	12	9	11	16	12	6	8	4	4	5	5	12	16	138
B-04-105	9	8	11	8	8	8	7	5	5	5	5	2	2	11	8	102
B-04-108	12	10	13	10	16	15	7	8	8	6	6	5	6	11	13	146
B-04-109	4	11	8	10	6	12	4	6	6	2	2	4	4	13	10	102
B-04-110	10	11	11	11	13	8	8	4	4	3	3	2	2	16	16	122
B-04-113	17	13	13	12	13	16	10	7	7	7	7	7	7	17	17	170
B-04-114	15	11	11	8	8	10	11	3	3	8	6	5	5	13	11	128
B-04-116	8	7	11	8	14	9	6	6	6	4	4	2	2	15	14	116
B-04-121	17	16	19	11	15	13	19	3	6	6	7	6	6	18	18	180
B-04-122	11	16	6	11	16	15	5	9	9	8	8	6	9	16	11	156
B-04-123	16	16	16	13	15	16	12	7	7	7	9	7	9	19	18	187
B-04-124	10	11	6	13	11	13	3	7	7	6	6	4	4	11	6	118
B-04-125	18	16	12	14	16	18	8	8	8	8	8	8	8	18	17	185
B-04-126	7	7	6	7	8	11	7	6	6	4	4	5	5	13	16	112
B-04-127	11	11	11	12	13	12	10	7	7	5	5	5	5	13	16	143
B-04-129	18	13	11	14	16	16	9	4	6	8	8	7	7	16	16	169
B-04-131	8	11	6	8	8	7	4	6	6	4	4	4	4	13	8	101
B-04-133	11	13	9	14	14	13	6	6	6	6	6	5	5	13	13	140
B-04-136	14	17	18	14	14	15	17	8	8	7	7	7	7	15	14	182
B-04-140	14	12	13	11	11	13	13	7	6	6	7	6	6	16	16	157
B-04-141	7	8	8	11	10	15	14	3	5	4	4	5	5	13	6	118

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-04-144	17	11	16	10	11	11	16	6	8	7	8	7	7	17	17	169
B-04-145	11	11	11	11	10	11	16	6	6	6	6	6	6	11	7	135
B-04-149	8	9	11	8	8	13	8	7	8	6	8	8	6	7	16	131
B-04-152	8	8	11	7	14	13	7	7	5	6	6	7	7	8	13	127
B-04-153	6	5	11	6	8	13	6	3	4	7	5	5	7	11	10	107
B-04-155	10	10	13	11	14	10	8	5	6	4	5	4	5	11	16	132
B-04-161	9	15	11	14	13	11	6	3	3	6	6	7	7	11	13	135
B-04-163	12	13	3	15	10	13	3	6	6	5	5	4	6	14	15	130
B-04-164	14	10	11	10	11	12	9	7	7	5	5	5	4	13	16	139
B-04-165	13	9	11	8	11	10	10	6	6	6	6	4	4	13	11	128
B-04-167	14	18	15	16	16	16	13	7	5	7	5	5	5	18	18	178
B-04-174	18	16	17	15	16	15	15	8	8	6	6	4	5	19	18	186
B-04-181	11	8	10	8	7	15	14	3	4	9	9	8	8	6	7	127
B-04-186	15	16	18	13	16	13	11	9	9	9	9	9	9	18	18	192
B-04-187	14	8	18	10	13	13	6	6	4	7	7	6	8	11	18	149
B-04-188	10	9	16	10	13	15	8	5	4	6	6	8	6	12	16	144
B-04-189	13	11	18	11	10	11	17	7	7	7	6	7	6	17	17	165
B-04-191	16	14	16	13	14	14	10	5	7	8	8	7	7	13	14	166
B-04-195	15	15	13	15	14	16	10	9	9	8	9	8	8	16	15	180
B-04-196	18	11	15	11	11	16	14	7	7	8	9	8	8	17	16	176
B-04-197	14	14	13	10	14	16	16	9	9	9	9	9	9	16	16	183
B-04-198	18	19	18	13	16	18	18	9	9	9	9	9	9	19	10	203
B-04-199	18	13	18	12	15	18	17	9	9	9	9	9	9	18	18	201
B-04-200	14	14	15	12	13	16	16	8	8	9	9	9	9	18	16	186
B-04-205	10	8	9	13	7	8	8	6	5	6	5	5	5	16	9	120

Appendix 3: Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-04-211	7	8	8	8	5	7	3	5	5	5	5	5	5	14	5	95
B-04-214	9	8	8	6	10	16	5	3	3	8	8	8	8	13	18	131
B-04-215	13	10	8	8	9	16	6	5	5	7	4	7	4	13	18	133
B-04-217	18	15	18	14	16	18	18	9	9	9	9	9	9	16	17	204
B-04-218	13	10	10	11	11	16	15	9	9	9	9	9	9	11	16	167
B-04-219	13	8	8	15	10	15	11	8	8	7	7	5	5	13	11	144
B-04-220	10	16	14	14	8	8	11	5	5	5	5	4	4	13	10	132
B-04-223	12	10	13	10	9	13	8	9	9	9	9	8	8	13	16	156
B-04-224	14	10	13	8	8	16	15	6	6	8	8	8	8	15	16	159
B-04-225	5	6	6	6	6	12	7	3	3	2	2	2	2	11	7	80
B-04-226	12	10	6	10	11	13	6	9	9	9	7	8	7	15	13	145
B-04-228	14	7	10	8	8	16	13	6	6	9	9	9	9	13	7	144
B-04-230	10	11	9	11	8	7	11	7	7	8	5	8	3	13	7	125
B-04-231	10	11	8	7	10	8	6	6	6	6	6	3	3	12	6	108
B-04-232	10	7	11	7	10	6	6	6	6	6	6	4	4	14	16	119
B-04-238	10	14	13	13	10	14	8	6	6	5	5	5	5	18	16	148
B-04-240	17	14	16	14	13	17	14	9	9	9	9	9	8	17	16	191
B-04-241	15	8	15	8	10	18	18	7	5	8	8	5	8	15	16	164
B-04-244	12	10	15	13	8	13	14	7	7	6	5	8	4	16	16	154
B-04-248	7	8	5	10	7	9	2	6	6	7	6	5	5	14	13	110
B-04-249	7	8	5	9	5	6	2	6	6	4	4	5	5	13	8	93
B-04-250	7	7	5	8	7	8	6	8	8	7	7	7	7	13	14	119
B-04-251	9	13	6	11	7	9	1	6	6	6	6	6	6	11	11	114
B-04-256	8	11	7	12	8	8	3	6	6	5	5	8	8	11	11	117
B-04-257	10	11	6	10	12	8	7	6	6	5	5	7	7	14	13	127

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
B-04-259	10	8	6	10	8	7	7	6	6	5	5	5	5	11	8	107
B-04-263	9	11	6	11	11	11	7	6	6	5	5	5	6	16	16	131
B-04-264	11	10	6	9	13	14	10	6	6	6	6	6	6	12	16	137
B-04-266	11	10	10	9	9	16	10	8	8	8	8	8	8	15	8	146
B-04-270	7	3	3	7	14	8	6	4	4	4	4	4	4	13	13	98
B-04-275	10	10	1	10	13	7	0	5	5	6	6	5	5	14	11	108
B-04-276	10	10	3	10	13	7	2	5	5	2	2	2	2	13	13	99
D-04-011	18	11	16	13	15	16	8	9	9	9	9	5	3	12	17	170
D-04-012	16	18	18	17	17	15	18	5	7	9	9	10	10	20	16	205
D-04-017	5	8	8	13	7	8	3	7	7	7	5	5	3	12	6	104
D-04-022	5	7	13	6	7	5	5	2	6	2	2	2	2	11	8	83
D-04-023	11	8	16	13	7	13	13	4	4	8	8	5	5	8	16	139
D-04-027	15	11	17	9	10	16	14	8	8	8	8	8	8	13	16	169
D-04-028	16	14	18	13	13	14	13	5	8	8	4	4	2	13	16	161
D-04-029	5	4	6	5	8	2	2	6	9	5	5	4	4	8	12	85
D-04-033	16	13	18	13	13	13	13	7	7	7	7	8	8	18	18	179
D-04-034	16	11	16	10	11	13	13	8	8	9	9	8	8	13	16	169
D-04-035	16	13	16	13	13	13	13	9	9	9	9	9	9	11	16	178
D-04-036	18	16	18	15	17	15	18	8	7	7	9	8	8	16	16	196
W-04-006	8	6	1	7	8	6	3	7	7	7	7	8	8	9	2	94
W-04-007	13	16	5	13	13	8	6	7	7	7	7	2	2	17	7	130
W-04-009	10	7	3	7	14	7	1	8	8	8	8	6	6	8	3	104
W-04-013	8	5	4	8	8	7	5	7	7	7	7	1	1	11	12	98
W-04-020	10	7	1	8	8	12	12	9	9	7	7	1	1	11	2	105
W-04-027	3	13	5	13	3	4	6	3	3	1	1	1	1	1	8	66

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-04-029	3	14	2	3	3	6	2	6	6	5	5	1	1	3	3	63
W-04-032	11	8	8	5	10	13	13	8	8	8	8	10	10	13	9	142
W-04-036	15	15	2	13	3	15	2	8	8	8	8	2	2	5	3	109
W-04-039	8	15	2	16	6	11	2	7	7	7	7	2	2	16	3	111
W-04-040	4	12	2	12	13	11	3	8	8	7	7	2	2	11	3	105
W-04-041	13	13	3	11	14	13	3	8	8	8	4	9	1	12	3	123
W-04-043	11	14	2	11	13	11	4	5	3	7	4	1	1	13	2	102
W-04-044	16	15	3	14	16	13	8	7	7	7	7	2	2	16	4	137
W-04-049	16	18	10	16	14	15	16	8	8	9	7	9	2	18	10	176
W-04-050	15	11	10	8	9	12	13	6	6	6	6	3	3	13	10	131
W-04-051	18	16	10	12	16	17	13	9	9	9	7	9	6	16	10	177
W-04-052	18	16	13	13	18	15	15	8	8	7	7	8	2	16	8	172
W-04-053	9	6	17	4	18	7	10	5	5	6	6	2	2	11	13	121
W-04-054	16	13	16	8	15	12	13	8	6	8	6	2	2	11	11	147
W-04-055	8	16	8	13	15	8	2	7	7	6	6	1	1	17	8	123
W-04-056	8	13	3	10	9	8	2	6	6	4	7	0	0	12	2	90
W-04-057	14	16	13	13	17	10	8	7	7	7	7	0	0	13	12	144
W-04-058	4	1	8	1	10	9	8	7	7	7	7	1	1	9	3	83
W-04-059	14	17	10	16	17	12	11	8	8	6	6	1	1	6	7	140
W-04-060	17	15	14	13	19	16	16	8	8	8	8	2	2	13	12	171
W-04-063	11	16	6	16	11	8	3	8	8	7	7	2	2	16	2	123
W-04-069	1	12	6	16	3	6	6	6	6	6	5	1	1	6	1	82
W-04-070	10	11	5	13	6	7	2	5	6	6	6	1	1	12	6	97
W-04-071	13	13	6	13	8	8	10	6	3	7	3	1	7	12	5	115
W-04-072	14	13	10	13	14	13	13	8	3	7	4	2	2	13	3	132

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-04-074	13	6	13	3	9	8	8	6	6	7	7	2	2	12	8	110
W-04-076	8	17	15	15	15	8	13	7	6	7	7	3	3	9	8	141
W-04-077	8	11	13	8	13	8	3	7	7	6	6	2	2	13	11	118
W-04-078	7	13	8	11	8	3	4	6	3	6	5	1	1	11	2	89
W-04-082	7	8	8	6	7	8	2	6	7	6	7	1	1	13	2	89
W-04-083	15	14	17	15	18	16	13	9	9	9	9	9	8	15	17	193
W-04-084	6	11	4	13	13	6	3	7	6	7	6	4	4	14	8	112
W-04-085	12	5	3	16	18	8	5	9	9	8	8	2	2	13	3	121
W-04-087	8	11	4	8	6	8	3	8	8	7	7	2	2	11	3	96
W-04-088	6	7	8	5	10	7	2	6	7	6	6	1	1	8	2	82
W-04-090	15	16	18	15	18	9	7	8	3	9	5	8	1	12	13	157
W-04-092	12	10	17	10	19	11	8	8	8	9	9	9	9	12	13	164
W-04-093	7	11	8	11	18	7	3	7	7	7	7	1	1	12	8	115
W-04-094	16	10	14	10	20	13	15	8	8	9	9	9	9	13	11	174
W-04-095	18	8	10	6	14	17	13	9	9	9	9	9	9	9	3	152
W-04-097	13	13	12	11	19	13	10	9	9	9	9	9	9	13	8	166
W-04-102	10	15	10	15	14	12	11	9	9	8	8	8	8	12	3	152
W-04-105	8	15	3	15	15	9	3	8	8	8	6	1	3	13	2	117
W-04-106	6	6	9	6	13	6	3	8	8	6	6	7	1	13	8	106
W-04-109	14	15	10	13	13	11	11	8	7	8	6	5	2	16	2	141
W-04-110	10	14	14	11	13	8	10	8	8	7	7	7	7	14	3	141
W-04-111	8	6	8	5	11	8	10	6	6	6	6	0	0	11	4	95
W-04-113	4	2	3	2	12	6	3	4	4	5	5	1	1	8	3	63
W-04-114	11	5	5	3	10	8	3	9	9	9	9	5	3	13	3	105
W-04-115	8	11	6	11	13	8	2	7	7	7	7	4	4	13	8	116

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-04-116	10	15	8	14	7	8	6	4	6	4	7	2	4	10	2	107
W-04-119	8	8	3	9	15	8	2	7	8	7	8	1	9	13	5	111
W-04-120	15	8	18	10	13	9	11	5	1	7	1	9	1	14	14	136
W-04-121	8	9	7	6	12	8	3	8	8	7	7	2	1	11	2	99
W-04-124	5	4	3	10	13	6	3	7	7	7	7	0	2	8	3	85
W-04-126	11	16	15	15	13	11	11	8	8	7	7	6	6	11	9	154
W-04-129	5	10	3	12	20	11	6	8	8	8	8	0	0	11	2	112
W-04-132	7	13	8	13	8	8	5	8	8	8	8	3	3	11	5	116
W-04-135	5	12	2	13	6	6	2	7	7	7	7	0	1	11	3	89
W-04-137	16	14	13	13	10	13	8	8	8	8	8	6	6	13	8	152
W-04-149	2	2	8	2	10	10	1	8	8	6	7	1	1	8	1	75
W-04-151	7	10	8	10	9	9	5	8	6	7	6	1	1	11	7	105
W-04-153	6	11	2	11	10	6	3	7	7	6	6	3	3	10	4	95
W-04-157	6	4	9	4	9	6	4	5	5	5	6	2	2	7	3	77
W-04-159	7	5	1	4	6	8	4	7	7	6	6	0	1	5	8	75
W-04-166	3	6	2	6	6	6	4	7	3	7	4	3	0	6	2	65
W-04-167	5	6	3	5	7	7	2	7	7	7	7	2	4	7	4	80
W-04-171	8	1	3	1	10	10	6	8	8	7	7	2	2	6	5	84
W-04-172	7	2	2	2	7	6	4	7	7	7	7	2	2	6	6	74
W-04-173	10	10	8	10	6	10	5	7	7	7	7	3	2	10	5	107
W-04-174	10	3	2	3	5	8	2	7	7	7	7	3	3	12	4	83
W-04-175	10	5	3	5	10	10	3	8	8	7	7	5	5	12	3	101
W-04-176	8	14	2	13	9	7	5	7	7	7	7	6	4	11	3	110
W-04-177	9	15	18	15	10	6	8	7	7	7	7	4	4	13	9	139
W-04-178	11	5	8	5	10	8	5	7	7	7	7	3	5	12	5	105

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-04-179	8	10	10	10	8	8	2	5	5	6	6	1	2	11	3	95
W-04-180	8	12	14	10	6	8	3	6	8	7	7	8	1	11	5	114
W-04-181	7	3	2	5	8	13	5	7	7	7	7	5	5	6	3	90
W-04-182	13	13	14	13	12	13	11	8	8	9	9	9	9	14	3	158
W-04-184	11	4	6	3	11	11	5	9	6	8	3	9	1	9	5	101
W-04-186	8	11	8	11	8	7	2	7	7	7	7	3	3	11	4	104
W-04-187	6	10	1	8	8	7	2	8	8	7	7	5	5	11	3	96
W-04-192	15	2	7	6	19	15	14	8	6	8	8	9	9	15	13	154
W-04-193	16	13	9	13	13	15	6	9	9	9	9	9	9	15	11	165
W-04-195	16	13	10	13	13	16	13	7	3	8	4	9	9	13	3	150
W-04-197	16	4	15	4	15	15	13	7	5	7	5	9	9	16	3	143
W-04-200	13	3	3	3	7	13	3	8	8	8	6	8	1	11	3	98
W-04-202	8	6	8	7	10	6	3	8	8	7	7	8	8	11	4	109
W-04-203	10	10	6	6	5	9	1	5	6	3	7	2	2	11	11	94
W-04-207	18	15	18	13	13	17	14	6	6	9	9	9	9	12	17	185
W-04-208	16	18	16	15	14	16	16	9	9	9	9	9	9	16	16	197
W-04-211	13	16	19	13	11	8	6	4	3	6	6	1	1	13	12	132
W-04-212	5	8	1	7	6	6	4	6	6	7	7	1	1	8	5	78
W-04-213	18	16	17	15	13	18	15	3	6	7	9	9	9	15	18	188
W-04-216	10	4	6	4	7	8	3	6	6	7	7	2	2	11	10	93
W-04-217	8	11	10	11	12	10	8	7	7	7	7	4	4	12	8	126
W-04-218	8	13	7	13	11	6	4	8	6	7	7	7	7	11	11	126
W-04-225	7	5	8	7	13	7	5	7	7	7	7	3	5	8	12	108
W-04-231	12	15	10	15	10	10	10	8	6	7	7	6	6	11	8	141
W-04-232	8	14	2	11	11	8	5	5	5	6	6	3	3	14	4	105

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-04-234	14	17	10	13	10	16	16	6	8	9	9	9	9	13	3	162
W-04-237	16	11	8	11	13	17	13	8	8	9	9	9	9	13	15	169
W-04-238	13	16	8	16	13	15	13	9	9	8	8	10	10	14	8	170
W-04-239	13	16	13	16	13	13	13	9	9	9	9	9	9	13	5	169
W-04-249	15	16	10	16	8	18	11	6	5	8	8	10	10	6	2	149
W-04-250	18	13	10	11	8	17	13	6	7	9	9	10	9	6	3	149
W-04-252	18	16	15	15	12	18	11	9	9	10	10	8	2	10	8	171
W-04-253	16	8	6	8	11	13	8	5	5	7	7	8	8	8	10	128
W-04-254	16	18	10	16	10	17	16	8	8	8	8	10	10	16	5	176
W-04-255	11	5	10	5	13	17	13	6	8	8	8	10	10	11	10	145
W-04-256	10	15	8	15	11	13	5	8	8	8	8	8	7	11	10	145
W-04-260	10	15	3	15	8	11	5	8	8	7	7	4	4	11	3	119
W-04-262	11	11	2	11	7	11	7	8	8	8	8	8	8	11	3	122
W-04-264	8	5	2	5	8	8	2	7	7	7	7	3	5	11	8	93
W-04-265	10	9	4	9	11	12	6	7	7	7	7	3	5	12	6	115
W-04-266	13	16	10	16	10	16	13	8	8	8	8	9	6	13	8	162
W-04-269	9	3	3	3	11	11	6	7	7	8	8	9	9	13	5	112
W-04-271	8	16	6	15	11	15	7	9	9	9	9	7	10	11	15	157
W-04-274	10	16	8	16	8	10	6	7	7	7	7	1	8	6	10	127
W-04-277	2	6	0	7	1	6	2	4	6	5	6	1	3	3	2	54
W-04-286	4	2	1	2	5	11	10	6	5	7	7	8	6	6	3	83
W-04-287	13	15	10	15	8	8	5	8	8	7	7	6	6	13	8	137
W-04-289	10	13	15	11	13	8	8	7	4	7	4	4	4	6	8	122
W-04-297	13	13	18	13	13	18	17	7	5	5	5	7	8	8	11	161
W-04-298	15	16	15	16	11	13	10	8	6	7	7	8	5	11	5	153

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-04-299	13	16	15	16	13	16	13	8	8	7	7	5	1	6	4	148
X-04-001	11	6	11	5	13	10	6	7	7	6	8	5	7	11	7	120
X-04-002	11	13	17	17	18	11	7	8	8	5	5	7	7	10	16	160
X-04-005	12	12	13	12	6	5	7	2	3	2	3	2	2	13	9	103
X-04-014	11	7	8	10	14	14	4	7	6	7	7	7	6	12	12	132
X-04-023	12	10	6	11	10	10	3	6	6	3	4	3	3	14	7	108
X-04-026	8	6	6	6	9	3	2	2	2	3	3	2	2	6	4	64
X-04-031	12	7	8	8	9	7	3	5	5	1	1	2	2	14	7	91
X-04-037	14	10	13	8	12	14	13	3	5	7	7	5	5	11	15	142
X-04-041	1	2	7	6	9	6	4	4	4	3	3	1	1	10	9	70
X-04-042	2	1	1	1	14	6	1	4	4	3	3	1	1	0	0	42
X-04-043	16	16	15	9	14	9	8	6	6	6	6	5	5	12	12	145
X-04-044	9	5	8	5	5	3	6	2	3	3	2	2	2	11	6	72
X-04-046	11	8	8	7	6	3	3	3	3	2	3	1	1	11	6	76
X-04-048	10	11	7	13	11	7	2	6	6	4	4	1	2	13	13	110
X-04-049	7	6	6	3	15	10	6	4	4	6	6	6	6	9	9	103
X-04-051	12	8	6	10	16	13	5	4	4	8	8	5	5	13	12	129
X-04-052	10	8	8	7	15	6	3	4	4	3	3	2	2	11	8	94
X-04-053	14	14	15	12	10	8	10	7	6	4	4	3	3	15	15	140
X-04-054	12	14	11	8	14	6	3	6	6	4	4	4	4	11	13	120
X-04-061	5	7	5	11	13	6	0	6	6	3	3	1	1	11	5	83
X-04-065	16	15	16	7	13	11	7	2	4	5	5	3	3	12	11	130
X-04-066	11	11	8	8	12	7	6	6	6	4	4	2	2	14	11	112
X-04-067	12	13	9	13	14	10	7	6	6	5	5	3	4	14	9	130
X-04-068	11	15	8	8	12	7	6	3	4	4	4	2	2	0	0	86

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-04-071	11	14	9	11	11	7	6	6	6	4	4	2	2	12	9	114
X-04-074	7	13	2	10	10	5	4	5	5	2	2	1	2	7	7	82
X-04-077	13	11	9	8	12	14	9	5	4	7	7	5	4	7	12	127
X-04-078	10	9	9	8	10	7	5	6	6	4	4	3	3	11	9	104
X-04-080	13	10	5	10	16	5	5	6	5	5	6	4	4	13	14	121
X-04-081	10	14	9	13	15	5	6	5	5	3	3	4	4	0	0	96
X-04-082	8	10	9	8	9	6	7	6	6	4	4	3	3	9	8	100
X-04-084	10	8	11	7	7	8	8	4	3	4	4	2	2	7	10	95
X-04-088	10	10	9	9	11	7	7	5	5	4	4	1	2	8	9	101
X-04-090	15	12	8	13	16	11	11	4	4	6	6	3	3	16	16	144
X-04-091	15	16	13	13	16	13	14	7	7	8	8	7	8	16	16	177
X-04-092	11	10	8	8	10	7	9	3	3	4	4	2	2	10	9	100
X-04-094	13	13	9	9	13	11	6	3	3	5	5	5	5	12	11	123
X-04-095	9	7	13	7	14	7	7	3	3	4	3	2	2	7	11	99
X-04-097	5	6	6	7	12	8	4	6	6	5	5	4	4	10	9	97
X-04-098	7	5	4	3	14	4	6	4	4	4	4	0	2	7	4	72
X-04-099	7	7	8	7	11	7	3	5	5	4	4	2	2	9	7	88
X-04-101	7	8	10	7	14	6	7	6	6	2	3	1	2	7	11	97
X-04-102	14	11	10	11	11	10	1	5	4	5	4	2	2	14	14	118
X-04-103	10	8	11	9	12	7	11	4	3	3	3	2	2	12	13	110
X-04-106	13	7	12	6	14	14	10	3	3	5	5	5	5	0	0	102
X-04-107	11	10	12	9	15	11	14	5	5	7	7	8	8	13	11	146
X-04-109	14	6	12	2	14	11	14	5	5	5	6	6	6	11	11	128
X-04-110	15	15	15	11	15	11	14	4	4	3	3	0	0	16	16	142
X-04-112	11	11	13	11	14	11	11	7	7	7	7	3	3	9	13	138

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-04-114	15	11	16	10	16	11	11	4	2	5	5	5	5	11	16	143
X-04-115	14	8	10	7	11	14	11	4	4	7	7	8	8	12	11	136
X-04-116	9	10	8	7	11	11	9	6	6	4	4	5	5	11	7	113
X-04-118	13	10	10	11	13	10	12	5	5	4	6	3	5	11	11	129
X-04-119	14	11	8	9	11	11	10	4	4	6	6	5	5	10	15	129
X-04-120	9	7	8	10	11	12	9	6	6	6	6	4	4	8	13	119
X-04-121	14	8	9	9	13	11	9	5	5	6	5	5	5	0	0	104
X-04-122	16	14	16	13	14	12	11	5	5	6	6	5	5	16	16	160
X-04-123	11	10	7	10	11	9	7	6	6	5	5	2	2	12	12	115
X-04-124	10	9	8	13	14	6	5	7	7	4	4	1	1	11	7	107
X-04-126	7	6	1	8	9	8	0	4	5	4	3	3	3	9	11	81
X-04-127	10	5	7	5	10	6	6	3	4	5	5	3	3	0	0	72
X-04-128	10	6	6	7	11	11	3	6	6	7	7	4	4	7	11	106
X-04-129	9	7	10	5	10	11	10	5	5	6	6	5	7	7	9	112
X-04-130	3	2	6	2	10	11	9	4	4	5	5	4	4	6	7	82
X-04-132	13	11	16	10	13	10	11	3	3	4	4	2	1	14	15	130
X-04-133	5	2	6	6	9	8	3	4	4	3	3	3	3	7	11	77
X-04-137	15	15	14	13	10	11	13	4	5	5	5	3	3	10	14	140
X-04-138	14	11	16	8	10	11	14	6	3	6	5	5	5	16	15	145
X-04-141	15	10	14	9	13	14	13	8	8	9	9	7	9	12	12	162
X-04-142	16	10	13	10	11	13	13	6	8	8	9	6	9	15	10	157
X-04-145	12	11	10	11	10	11	13	6	6	7	7	8	8	12	15	147
X-04-147	12	12	13	11	8	13	12	9	9	6	9	6	8	11	11	150
X-04-149	11	8	11	5	11	12	7	6	6	7	7	8	8	10	11	128
X-04-150	15	8	13	10	10	7	7	4	4	7	5	5	3	11	10	119

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-04-151	10	7	12	5	10	12	12	6	6	7	5	6	3	7	10	118
X-04-152	7	6	11	7	11	12	10	7	7	7	7	7	7	6	13	125
X-04-153	8	6	5	8	11	16	5	7	7	5	5	7	7	10	15	122
X-04-154	14	13	13	14	10	14	14	8	8	6	6	8	8	18	15	169
X-04-155	15	11	14	11	10	14	14	7	7	6	6	3	3	16	11	148
X-04-156	11	9	13	11	8	7	6	6	6	6	5	6	4	11	11	120
X-04-157	14	16	14	12	13	14	13	9	9	9	9	8	8	16	13	177
X-04-159	14	15	11	16	11	9	10	8	8	5	7	3	3	16	10	146
X-04-160	14	16	10	15	11	9	6	9	9	6	9	3	6	16	14	153
X-04-161	12	16	10	14	14	7	6	9	9	6	6	5	5	16	14	149
X-04-162	14	18	14	13	13	13	11	9	9	8	8	9	9	16	15	179
X-04-163	11	12	9	11	13	8	5	6	4	3	5	2	2	16	10	117
X-04-164	15	10	11	13	11	11	9	8	8	7	7	6	6	16	13	151
X-04-167	7	5	1	6	5	8	3	6	6	5	5	5	5	8	14	89
X-04-168	7	3	8	5	8	8	0	6	6	5	5	5	5	11	12	94
X-04-169	13	9	10	13	8	11	5	8	8	6	7	3	6	12	10	129
X-04-170	12	11	7	11	13	10	6	8	8	7	8	5	8	11	9	134
X-04-171	13	13	11	14	14	10	6	7	7	5	5	3	8	16	11	143
X-04-172	13	18	8	16	7	11	8	8	8	5	8	3	5	16	10	144
X-04-175	12	6	8	10	6	11	10	7	7	5	5	5	4	11	7	114
X-04-176	11	12	5	11	5	11	6	8	8	6	6	6	6	11	7	119
X-04-177	12	15	11	13	9	11	11	7	8	6	7	7	6	15	11	149
X-04-178	8	7	5	4	7	8	1	4	4	3	3	4	4	6	9	77
X-04-179	13	6	6	11	10	16	5	8	8	8	8	8	4	12	13	136
X-04-181	11	5	9	4	11	6	6	5	5	5	5	3	8	14	10	107

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-04-182	8	8	7	5	9	8	3	6	6	5	5	1	1	7	12	91
X-04-184	9	8	5	10	7	9	2	6	6	6	6	6	6	12	7	105
X-04-185	11	10	9	9	7	10	7	5	5	4	4	1	1	12	8	103
X-04-186	9	7	4	8	6	9	0	6	6	4	4	2	4	13	10	92
X-04-187	12	11	11	13	9	11	5	9	9	6	6	5	5	16	10	138
X-04-190	5	4	7	3	8	8	3	1	1	2	2	1	2	6	11	64
X-04-192	11	15	9	8	8	10	4	6	6	4	4	1	1	13	10	110
X-04-194	11	10	0	7	0	8	0	6	6	5	5	3	3	10	11	85
X-04-195	13	7	7	9	12	10	1	6	6	6	7	4	8	12	14	122
X-04-196	5	5	9	1	12	8	4	4	4	4	4	2	2	6	15	85
X-04-198	12	15	4	10	8	10	2	6	6	4	4	2	2	14	9	108
X-04-199	12	8	6	7	10	10	3	6	6	5	5	5	8	14	13	118
X-04-200	7	11	6	5	8	6	1	6	6	5	5	3	3	8	11	91
X-04-201	11	12	11	8	6	9	8	7	7	6	6	2	2	8	11	114
X-04-202	8	6	11	5	9	7	3	6	6	4	4	2	2	6	11	90
X-04-203	13	8	3	8	16	11	8	6	6	5	8	3	7	12	13	127
X-04-204	8	6	3	8	9	7	1	6	6	4	6	1	5	8	7	85
X-04-205	14	17	14	15	14	15	13	7	7	7	8	7	7	16	15	176
X-04-206	12	12	9	11	9	10	7	7	7	5	8	5	8	11	12	133
X-04-207	12	14	7	12	14	14	8	7	7	9	9	8	8	15	11	155
X-04-208	12	11	14	5	8	11	8	5	5	5	5	9	9	11	16	134
X-04-209	16	18	18	11	12	15	13	8	8	9	9	8	9	10	15	179
X-04-210	16	14	6	9	12	14	10	5	5	6	6	9	6	13	12	143
X-04-212	7	12	1	6	9	8	6	6	6	4	4	2	2	10	12	95
X-04-213	8	5	2	6	9	8	1	6	6	4	4	2	2	8	12	83

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-04-215	7	6	1	6	14	8	2	5	6	5	5	2	2	10	11	90
X-04-216	7	2	1	6	9	8	2	6	6	4	4	3	3	10	11	82
X-04-221	15	14	18	10	10	19	14	9	9	9	9	5	5	10	13	169
X-04-222	14	16	13	13	9	16	13	8	8	7	7	10	10	14	11	169
X-04-223	14	14	14	10	8	16	15	9	9	7	7	6	6	14	12	161
X-04-225	11	11	12	11	9	11	7	7	7	7	7	4	4	13	11	132
X-04-227	11	12	13	13	7	15	14	5	5	7	7	9	9	12	11	150
X-04-228	8	7	7	5	7	15	7	4	4	4	4	9	9	6	11	107
X-04-232	9	9	4	11	10	11	6	7	7	7	7	9	9	11	8	125
X-04-238	11	14	9	12	7	13	18	7	7	6	6	9	9	13	7	148
X-04-239	14	13	17	10	11	11	11	8	8	7	7	5	5	15	15	157
X-04-248	9	6	6	3	8	10	2	3	3	7	7	5	5	7	11	92
X-04-249	8	10	1	7	10	11	5	6	6	5	5	3	3	12	13	105
X-04-251	9	13	7	5	13	6	8	7	7	3	3	0	0	0	0	81
X-04-253	14	11	14	7	9	5	6	2	2	3	3	4	4	9	13	106
X-04-255	11	13	13	10	8	5	9	4	4	4	4	7	4	8	13	117
X-04-256	12	11	9	6	8	6	10	6	6	5	5	6	6	8	8	112
X-04-257	12	15	11	11	9	6	7	6	6	5	5	2	2	8	13	118
X-04-258	10	14	13	9	8	8	15	7	7	4	4	5	5	15	9	133
X-04-259	15	14	17	10	8	11	15	7	7	8	8	7	7	13	12	159
X-04-260	11	9	16	10	9	14	14	7	7	7	7	3	3	12	14	143
X-04-262	13	16	11	10	8	13	12	7	7	7	7	3	6	12	11	143
D-05-011	16	3	10	11	19	10	18	8	8	6	7	8	8	8	13	153
D-05-013	8	5	16	3	13	13	17	4	6	9	6	9	6	6	10	131
D-05-014	10	3	6	5	6	6	3	9	9	5	5	8	5	6	11	97

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
D-05-015	10	5	6	5	6	6	5	8	8	8	5	8	5	6	13	104
D-05-018	11	8	11	10	13	8	8	8	8	8	8	6	7	15	11	140
D-05-019	12	10	11	11	13	13	6	7	7	8	8	8	8	10	11	143
D-05-020	11	11	10	10	16	10	8	8	8	7	7	5	7	13	11	142
D-05-023	11	10	18	11	12	9	6	7	7	6	6	4	4	8	11	130
D-05-025	13	10	6	10	8	15	15	9	9	8	8	6	8	11	8	144
D-05-026	14	8	7	10	8	15	16	7	7	8	8	8	8	8	11	143
W-05-001	10	6	14	8	7	8	6	7	8	5	5	7	7	7	10	115
W-05-002	9	10	7	8	7	8	3	8	8	5	5	2	1	10	8	99
W-05-009	12	12	14	13	10	13	10	7	7	5	8	4	8	13	10	146
W-05-012	10	6	6	6	10	15	8	8	8	8	6	9	6	13	11	130
W-05-013	11	12	14	9	10	11	7	8	6	5	5	5	6	15	9	133
W-05-014	3	15	12	11	7	5	3	4	5	1	2	3	4	9	8	92
W-05-016	12	13	13	12	14	11	10	7	7	4	4	2	2	11	8	130
W-05-017	14	16	14	5	15	10	16	8	8	7	7	6	6	17	13	162
W-05-019	11	11	13	11	9	11	8	7	7	5	5	1	1	12	11	123
W-05-020	10	10	6	8	6	14	5	9	9	8	8	6	6	11	11	127
W-05-023	6	8	5	5	6	8	2	7	7	5	5	4	4	11	6	89
W-05-024	9	8	10	7	9	8	3	7	7	6	6	7	7	10	9	113
W-05-027	11	9	4	5	6	7	5	6	6	5	5	3	3	13	5	93
W-05-028	13	5	6	5	6	11	10	7	7	5	5	6	4	16	12	118
W-05-030	8	7	3	7	3	11	3	8	8	5	5	5	5	14	8	100
W-05-034	10	7	3	8	5	10	2	7	7	5	5	4	3	11	6	93
W-05-036	8	11	5	10	6	10	5	7	7	4	4	2	2	11	5	97
W-05-037	5	10	5	6	6	6	2	7	8	7	8	3	5	9	5	92

Appendix 3: Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-05-038	9	7	4	8	10	8	2	5	5	5	5	4	3	12	8	95
W-05-041	12	8	8	8	7	11	6	8	8	5	5	2	3	12	11	114
W-05-043	10	11	8	10	7	12	8	6	6	7	7	5	5	13	10	125
W-05-045	10	7	5	3	6	11	4	5	5	2	2	1	1	9	3	74
W-05-046	10	5	13	5	6	11	7	3	3	5	5	3	3	7	13	99
W-05-047	13	10	9	7	7	11	5	7	7	5	5	1	1	14	11	113
W-05-048	7	6	4	6	5	11	5	6	6	5	5	5	5	6	3	85
W-05-049	14	15	8	14	7	14	5	8	8	7	7	8	8	15	6	144
W-05-050	14	15	6	11	13	10	3	8	8	5	5	5	5	13	12	133
W-05-051	16	16	6	14	17	13	11	7	7	5	5	7	7	15	14	160
W-05-052	10	15	5	15	7	11	5	7	7	5	5	3	3	12	9	119
W-05-053	11	11	3	11	7	8	2	7	7	5	5	4	4	13	8	106
W-05-054	6	3	3	1	6	8	3	4	3	3	3	4	4	7	2	60
W-05-055	16	15	9	5	5	16	16	9	8	9	9	9	9	16	8	159
W-05-056	19	18	18	15	10	12	16	8	8	9	9	10	10	18	17	197
W-05-057	8	13	13	11	6	16	10	2	2	2	2	2	2	10	10	109
W-05-058	17	16	14	13	9	18	18	8	8	9	9	9	9	13	17	187
W-05-059	15	16	15	16	13	16	16	9	9	8	8	2	2	17	12	174
W-05-060	8	5	6	4	6	15	11	0	0	4	4	1	1	8	3	76
W-05-062	5	13	2	12	2	18	3	6	6	3	3	1	1	7	13	95
W-05-063	13	13	6	12	3	15	7	9	9	5	5	1	1	11	11	121
W-05-065	16	15	16	13	11	16	16	9	9	5	5	5	5	18	18	177
W-05-066	16	11	16	6	15	16	16	9	9	9	9	9	9	17	18	185
W-05-069	15	15	6	13	9	8	6	8	8	8	8	3	3	13	6	129
W-05-071	11	10	6	10	7	10	5	7	7	5	5	9	7	13	6	118

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-05-072	10	10	10	10	6	13	10	7	6	5	5	1	1	15	6	115
W-05-073	11	14	6	13	7	10	2	7	7	5	5	3	3	15	13	121
W-05-076	11	11	15	8	14	10	7	8	8	5	5	2	5	13	8	130
W-05-077	11	11	16	10	11	11	10	7	7	6	6	9	1	16	16	148
W-05-078	10	9	6	6	6	11	11	4	4	5	5	2	1	8	6	94
W-05-079	9	5	6	5	6	10	5	5	5	5	5	3	2	10	5	86
W-05-081	10	13	9	11	9	11	7	6	6	6	6	3	5	16	11	129
W-05-082	11	11	6	11	10	12	11	7	7	6	6	3	3	15	11	130
W-05-083	15	12	16	11	9	12	11	5	5	8	8	8	8	14	14	156
W-05-085	10	11	11	11	8	11	10	6	6	5	5	8	8	12	10	132
W-05-086	12	13	10	12	7	8	6	7	7	8	8	8	8	11	10	135
W-05-087	9	10	8	10	8	10	5	7	7	5	5	2	1	11	8	106
W-05-093	10	10	8	10	8	13	11	8	8	6	5	8	7	14	8	134
W-05-094	17	17	12	16	8	12	8	7	7	5	5	5	5	18	17	159
W-05-099	11	12	14	13	11	11	13	2	2	3	3	5	5	11	14	130
W-05-101	7	15	3	15	2	10	2	8	8	5	5	4	2	10	2	98
W-05-102	18	17	19	18	11	14	18	7	8	9	9	5	3	18	17	191
W-05-103	12	11	8	12	10	10	7	7	5	3	5	2	2	16	10	120
W-05-104	16	13	14	12	7	13	16	4	3	3	2	2	2	16	14	137
W-05-105	11	9	12	10	13	11	10	9	9	9	9	8	8	11	11	150
W-05-106	17	11	15	15	15	14	16	7	6	8	8	4	3	17	15	171
W-05-110	10	10	6	10	9	11	3	7	7	5	5	8	6	11	6	114
W-05-112	13	14	14	14	8	9	14	6	6	8	8	7	7	15	14	157
W-05-113	11	12	8	11	7	10	5	7	7	5	5	3	3	12	8	114
W-05-114	10	11	5	12	7	13	7	8	8	5	5	4	4	13	8	120

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-05-115	9	16	15	14	8	15	14	3	3	5	5	6	8	10	10	141
W-05-116	10	10	11	10	10	11	10	7	7	8	8	9	9	10	10	140
W-05-117	15	13	15	13	6	11	16	5	5	9	9	8	8	9	8	150
W-05-118	16	16	13	14	6	16	16	3	3	8	8	8	8	10	16	161
W-05-119	16	11	15	15	10	16	16	7	6	8	8	8	8	16	17	177
W-05-120	9	8	7	8	18	11	2	8	8	3	3	0	0	11	13	109
W-05-121	8	10	7	9	13	8	4	8	8	8	8	2	2	7	6	108
W-05-122	8	11	8	11	7	10	6	7	7	5	5	5	5	16	6	117
W-05-126	11	15	16	15	20	15	7	9	9	6	6	8	8	16	16	177
W-05-128	8	15	10	15	17	8	3	7	7	8	8	8	8	7	7	136
W-05-129	11	15	15	13	20	11	6	8	8	6	6	3	0	13	9	144
W-05-130	13	15	10	14	15	12	6	8	8	8	8	5	3	14	10	149
W-05-131	13	15	15	15	15	10	6	8	8	5	5	3	3	16	16	153
W-05-132	11	15	6	15	20	11	2	8	8	5	5	1	2	16	8	133
W-05-134	13	15	15	13	16	15	8	9	9	7	9	5	9	17	16	176
W-05-136	19	16	15	18	13	19	19	9	9	10	10	10	10	19	15	211
W-05-137	18	10	15	11	15	17	16	6	6	9	9	9	9	15	16	181
W-05-138	17	14	15	15	8	15	15	8	8	9	9	6	7	15	14	175
W-05-139	20	16	20	15	16	15	18	9	9	10	10	10	10	17	20	215
W-05-140	19	17	19	19	16	19	19	9	9	10	10	10	10	20	19	225
W-05-141	9	16	6	12	7	13	2	7	7	6	6	4	4	14	10	123
W-05-145	15	6	15	5	8	15	11	3	5	9	9	9	9	8	6	133
W-05-146	20	16	20	16	16	17	17	8	8	9	9	9	9	17	18	209
W-05-148	18	16	16	18	12	19	18	8	8	8	8	3	4	19	18	193
W-05-149	18	14	18	13	6	18	17	3	3	6	6	5	5	19	18	169

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-05-150	16	15	18	11	6	18	16	6	6	9	9	9	9	16	16	180
W-05-151	16	12	17	8	7	17	18	7	7	6	6	5	5	13	10	154
W-05-152	17	16	18	12	18	18	6	9	9	7	7	7	8	15	13	180
W-05-154	15	13	11	16	10	18	9	5	5	6	6	3	3	12	11	143
W-05-157	18	15	16	11	10	18	16	9	9	9	9	9	9	18	18	194
W-05-159	15	13	15	13	8	16	16	8	8	8	8	8	8	15	14	173
W-05-160	16	15	15	16	17	17	17	9	9	7	7	9	9	14	15	192
W-05-161	13	13	15	12	20	16	11	8	8	8	8	7	7	14	16	176
W-05-162	13	11	13	13	20	15	11	8	8	6	6	8	8	14	10	164
W-05-163	6	5	5	6	5	4	5	7	7	4	4	2	2	3	5	70
W-05-164	15	15	16	15	19	16	12	8	7	5	7	1	5	17	16	174
W-05-165	17	11	16	10	17	16	16	8	8	9	9	10	10	15	16	188
W-05-166	17	6	6	10	16	17	13	4	4	10	10	9	10	13	16	161
W-05-167	16	15	18	11	20	15	16	9	9	9	9	10	2	16	18	193
W-05-168	11	13	16	16	18	16	16	7	8	6	8	3	5	12	16	171
W-05-169	11	12	14	8	7	13	16	8	7	8	8	7	8	15	16	158
W-05-170	12	18	8	18	2	15	6	7	7	8	8	8	8	11	8	144
W-05-171	15	13	13	8	13	15	13	9	6	5	9	0	4	9	11	143
W-05-173	12	8	8	15	15	13	15	9	9	9	9	10	10	15	18	175
W-05-176	14	17	10	18	13	11	5	9	9	8	8	2	2	15	11	152
W-05-177	15	17	11	18	15	14	1	8	8	7	7	2	5	16	13	157
W-05-178	16	16	13	15	13	13	6	8	8	7	7	2	2	16	14	156
W-05-180	16	15	16	16	16	10	6	7	7	7	7	1	1	18	15	158
W-05-181	10	15	6	15	15	13	1	8	8	6	9	1	10	15	13	145
W-05-182	19	20	19	14	17	12	16	8	9	8	8	3	2	20	19	194

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-05-183	2	18	2	18	7	8	8	9	9	8	8	3	2	1	1	104
W-05-185	12	13	6	15	10	16	16	6	6	8	8	10	10	15	15	166
W-05-187	16	11	16	11	20	15	16	6	6	9	9	10	10	10	13	178
W-05-188	3	2	11	4	9	8	1	1	1	4	4	4	4	7	11	74
W-05-189	6	11	7	13	7	8	1	9	9	5	5	3	3	9	9	105
W-05-190	11	10	6	6	6	6	1	8	8	5	5	3	3	13	8	99
W-05-191	7	5	6	5	7	8	1	6	7	4	4	2	3	12	13	90
W-05-193	10	5	7	7	6	8	1	8	8	5	5	2	4	13	9	98
W-05-194	11	7	7	4	6	6	1	9	9	5	5	4	4	11	10	99
W-05-196	8	16	15	16	6	13	7	7	7	8	7	10	3	7	10	140
W-05-200	6	2	17	2	7	5	6	2	2	2	2	3	2	7	8	73
W-05-201	7	5	6	5	6	10	2	7	7	6	3	2	1	10	6	83
W-05-202	6	5	10	7	7	10	5	6	6	6	6	2	2	5	7	90
W-05-203	10	6	16	8	6	15	14	7	7	7	7	7	7	7	16	140
W-05-205	16	11	18	11	11	15	11	8	8	9	9	1	9	13	18	168
W-05-207	7	7	8	9	6	15	6	1	1	1	1	3	2	6	8	81
W-05-208	18	16	15	15	10	16	15	8	8	9	9	10	10	13	20	192
W-05-209	19	17	18	17	16	19	16	8	6	8	8	10	10	20	18	210
X-05-001	8	8	14	7	8	13	10	2	4	3	6	1	4	13	10	111
X-05-002	10	10	7	12	14	17	12	7	7	8	8	6	9	13	11	151
X-05-003	8	8	2	2	5	8	5	6	6	4	4	2	1	13	7	81
X-05-005	3	2	2	3	3	8	2	7	7	4	4	3	4	7	4	63
X-05-007	9	7	8	7	6	8	6	2	2	3	4	6	6	8	5	87
X-05-011	9	8	7	7	8	7	2	6	6	4	4	6	4	11	7	96
X-05-012	7	7	6	6	6	7	4	6	6	4	4	2	2	7	8	82

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-05-015	9	9	8	10	5	9	4	6	6	5	5	2	2	11	5	96
X-05-018	17	4	15	8	8	16	10	8	9	9	9	6	6	11	16	152
X-05-020	7	11	5	11	7	7	2	6	6	4	4	1	2	11	8	92
X-05-021	18	15	17	14	14	13	10	9	8	9	5	8	3	17	17	177
X-05-022	10	13	7	9	9	8	3	7	7	4	4	6	6	16	16	125
X-05-023	7	10	14	9	7	7	4	7	8	4	4	3	4	8	6	102
X-05-024	10	14	16	13	13	7	7	3	3	3	3	6	6	8	11	123
X-05-026	8	8	11	7	7	16	10	1	1	4	4	3	3	11	16	110
X-05-027	5	4	4	4	6	7	2	8	8	4	4	5	5	6	4	76
X-05-028	6	7	6	7	5	9	4	6	7	4	4	5	5	8	5	88
X-05-029	12	13	14	12	12	13	7	9	9	8	6	8	3	12	11	149
X-05-030	13	15	14	13	15	14	12	9	9	7	7	5	3	16	10	162
X-05-031	7	10	9	10	8	10	7	8	8	1	1	1	1	10	5	96
X-05-032	9	13	11	13	14	8	4	9	9	4	4	5	5	12	13	133
X-05-033	7	13	13	12	7	7	6	9	9	1	3	0	3	10	8	108
X-05-035	6	7	8	9	6	6	3	4	3	4	3	3	4	8	7	81
X-05-036	8	8	7	7	7	8	3	6	6	4	4	6	6	12	8	100
X-05-037	10	11	13	8	8	8	8	8	8	4	4	6	6	15	11	128
X-05-038	14	13	11	13	14	11	10	7	7	8	9	3	8	13	10	151
X-05-040	8	7	6	9	7	8	3	7	7	5	4	6	4	10	10	101
X-05-042	12	7	12	9	17	13	5	9	9	8	4	3	3	13	15	139
X-05-043	6	6	7	6	6	7	3	8	4	4	3	4	4	8	8	84
X-05-044	12	11	8	12	16	14	8	7	7	6	5	8	8	13	14	149
X-05-046	11	8	11	8	8	14	4	7	3	7	2	3	0	8	10	104
X-05-048	11	14	14	14	13	5	11	7	8	5	5	5	5	5	13	135

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-05-051	9	6	11	6	6	8	6	6	6	5	5	4	3	9	9	99
X-05-052	9	7	16	7	9	8	6	8	8	5	5	4	3	11	10	116
X-05-054	10	8	13	9	7	8	6	8	8	4	4	6	4	9	16	120
X-05-055	10	8	8	8	6	11	6	7	8	7	7	5	4	2	2	99
X-05-057	5	7	5	10	6	8	4	7	7	4	4	3	3	12	11	96
X-05-058	4	1	11	2	9	16	5	6	6	7	7	9	9	7	10	109
X-05-061	8	7	1	7	16	18	4	10	10	9	9	9	9	8	14	139
X-05-062	16	7	14	6	8	15	12	7	7	9	9	7	7	8	16	148
X-05-064	7	7	6	9	13	8	6	7	7	4	4	6	6	8	14	112
X-05-066	8	8	8	8	7	8	4	7	6	4	4	4	4	14	9	103
X-05-067	18	11	17	13	9	16	10	8	8	9	9	7	6	11	11	163
X-05-069	6	1	16	5	7	12	7	1	1	3	3	2	2	6	13	85
X-05-070	7	9	7	8	13	11	4	6	5	4	4	3	3	7	13	104
X-05-071	8	9	6	10	6	10	2	7	7	5	5	8	8	10	11	112
X-05-072	8	11	6	12	9	11	4	6	6	5	5	8	5	11	10	117
X-05-079	2	5	1	6	10	8	3	6	6	5	5	5	5	7	13	87
X-05-080	3	5	1	5	8	8	4	7	7	5	5	4	4	7	11	84
X-05-081	2	2	4	2	5	8	2	7	7	4	4	2	2	7	3	61
X-05-083	10	11	3	11	6	11	5	7	7	6	6	2	2	10	8	105
X-05-084	8	9	11	9	6	8	5	7	7	5	5	3	3	8	8	102
X-05-085	7	7	11	11	6	8	4	5	5	4	4	3	2	10	9	96
X-05-086	7	13	6	13	7	9	3	5	5	4	4	1	1	10	8	96
X-05-088	11	17	7	16	14	7	5	7	7	4	4	5	4	10	11	129
X-05-091	16	8	11	8	17	18	4	9	9	10	10	10	10	9	13	162
X-05-093	7	8	7	7	5	8	3	5	6	4	4	4	4	7	7	86

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-05-094	4	3	11	3	5	8	6	4	4	4	4	4	4	6	7	77
X-05-095	10	7	12	7	6	8	6	8	7	4	4	5	4	14	16	118
X-05-096	9	11	7	11	6	8	3	6	7	4	4	8	8	9	10	111
X-05-098	8	11	7	11	6	8	3	7	7	4	4	3	3	8	11	101
X-05-099	7	9	11	8	6	9	5	7	7	4	4	2	2	13	10	104
X-05-100	7	10	6	10	6	8	3	8	8	4	4	7	7	11	9	108
X-05-102	8	7	7	6	5	8	4	7	6	5	5	5	5	9	11	98
X-05-103	6	3	6	4	15	14	8	5	5	7	7	7	7	9	13	116
X-05-104	17	13	17	13	8	16	11	5	7	9	9	8	8	17	18	176
X-05-105	10	7	13	6	7	12	10	4	4	6	6	4	4	13	12	118
X-05-106	11	6	13	5	6	16	10	5	5	7	7	9	9	13	9	131
X-05-107	9	12	11	14	8	8	8	7	7	4	5	4	4	11	14	126
X-05-109	4	6	12	4	6	11	9	6	6	5	5	3	3	6	7	93
X-05-111	17	14	17	9	8	18	16	9	9	10	10	10	10	11	16	184
X-05-112	6	9	7	6	7	8	4	6	6	5	4	5	5	8	6	92
X-05-114	16	16	11	12	6	16	14	8	8	9	9	8	7	12	10	162
X-05-115	2	3	3	5	6	7	4	2	1	3	3	3	3	7	6	58
X-05-117	7	7	7	6	6	8	5	8	8	4	4	2	4	11	6	93
X-05-118	6	7	7	7	6	8	3	8	8	4	4	4	4	9	8	93
X-05-120	8	10	8	11	6	12	7	7	7	6	6	4	4	11	8	115
X-05-121	8	9	12	15	6	9	6	8	8	4	4	4	4	8	11	116
X-05-122	17	14	15	11	8	16	16	9	9	10	10	8	8	16	16	183
X-05-123	11	5	6	8	16	13	6	9	9	9	9	8	8	10	11	138
X-05-125	14	3	16	6	13	16	8	3	3	8	8	8	8	13	16	143
X-05-126	13	9	7	11	6	16	12	4	4	8	8	8	8	11	11	136

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-05-127	9	17	13	14	6	14	10	6	7	5	5	7	7	12	11	143
X-05-128	10	16	11	13	6	16	16	1	1	5	5	10	10	11	7	138
X-05-129	8	9	6	9	6	8	3	8	8	5	5	4	4	10	11	104
X-05-130	8	7	6	7	6	7	3	8	8	4	4	3	3	8	8	90
X-05-132	12	13	13	13	8	18	7	9	9	5	5	8	8	13	12	153
X-05-133	10	10	13	9	6	13	8	3	3	4	4	6	6	12	12	119
X-05-136	7	10	12	13	16	12	5	9	9	4	4	5	5	11	13	135
X-05-137	13	15	16	13	13	16	8	2	2	6	5	8	8	13	13	151
X-05-138	8	10	7	14	12	10	6	8	8	4	4	7	7	12	9	126
X-05-139	8	15	7	16	16	9	2	9	9	6	6	8	3	13	13	140
X-05-140	9	9	16	6	6	13	14	2	2	3	3	7	7	9	9	115
X-05-144	14	13	18	13	8	14	9	8	8	7	7	8	8	16	11	162
X-05-145	17	16	18	15	10	17	16	9	9	9	9	10	10	10	10	185
X-05-146	11	8	12	9	19	15	7	7	9	7	7	7	7	7	13	145
X-05-148	7	8	1	8	10	8	1	8	8	4	4	3	3	6	12	91
X-05-150	17	13	16	9	14	17	10	9	9	9	9	7	7	15	17	178
X-05-151	12	7	17	6	8	16	7	9	9	8	8	9	9	9	17	151
X-05-153	14	19	14	18	7	18	16	8	9	7	7	7	7	16	8	175
X-05-154	14	19	14	16	8	15	18	6	8	8	8	4	4	12	8	162
X-05-155	16	18	15	15	7	17	11	7	7	6	6	8	8	16	16	173
X-05-157	7	2	6	5	6	11	5	5	5	6	6	4	4	11	10	93
X-05-162	9	12	13	14	8	14	9	8	8	5	5	5	4	10	12	136
X-05-163	11	9	6	13	7	16	3	9	9	6	6	7	6	13	8	129
X-05-164	7	9	11	14	7	13	6	9	9	7	7	4	4	11	9	127
X-05-165	7	13	12	13	11	13	3	9	9	5	5	3	3	7	6	119

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-05-167	7	9	12	11	17	13	7	9	9	6	6	4	5	11	11	137
X-05-168	11	10	13	10	16	15	12	9	9	8	8	6	8	11	11	157
X-05-169	9	6	8	6	7	11	12	4	5	4	4	4	4	8	8	100
X-05-171	8	9	13	3	14	15	3	5	5	8	8	6	7	8	13	125
X-05-172	9	8	7	11	17	14	7	7	7	4	4	3	4	11	13	126
X-05-173	9	10	11	12	17	14	9	7	7	4	4	4	4	12	12	136
X-05-176	10	8	16	15	18	16	9	6	6	6	6	8	8	12	16	160
X-05-177	11	18	13	15	18	17	10	9	9	7	7	7	7	14	14	176
X-05-179	6	7	14	4	7	14	12	0	0	1	1	3	2	7	5	83
X-05-181	7	5	11	7	8	6	5	9	9	5	5	3	3	11	12	106
X-05-182	11	8	11	10	10	7	5	9	9	5	5	3	2	15	15	125
X-05-183	9	9	7	8	7	11	6	9	9	7	7	7	7	11	12	126
X-05-185	8	5	8	7	10	10	4	9	9	4	5	2	2	13	13	109
X-05-186	6	4	7	6	5	8	0	8	8	4	4	4	3	11	9	87
X-05-188	7	4	7	6	6	11	3	4	4	5	5	5	5	13	7	92
X-05-189	7	4	7	6	6	9	2	4	7	3	5	8	1	13	7	89
X-05-190	15	10	6	12	15	11	9	9	9	5	5	8	8	15	14	151
X-05-191	11	7	13	6	7	15	11	8	8	10	10	8	7	12	9	142
X-05-192	15	17	17	11	15	15	18	9	9	9	9	9	9	16	17	195
X-05-193	16	11	14	9	8	15	16	9	7	9	9	9	6	11	8	157
X-05-194	11	4	13	4	6	14	11	9	9	9	9	6	8	8	8	129
X-05-195	7	14	8	14	7	10	6	6	8	9	6	7	4	13	5	124
X-05-196	7	9	9	15	6	8	5	9	9	8	8	3	2	11	7	116
X-05-198	18	6	16	6	8	16	15	9	9	9	9	9	9	16	8	163
X-05-199	17	12	16	9	11	14	11	7	7	8	8	7	6	16	16	165

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
X-05-200	14	12	18	9	11	13	13	8	8	7	7	5	5	13	17	160
X-05-202	5	5	11	5	6	6	3	5	6	4	4	2	2	9	8	81
X-05-204	12	7	5	13	14	9	2	9	9	6	6	4	3	13	13	125
X-05-207	7	4	3	6	6	6	3	8	8	4	4	5	5	12	7	88
X-05-208	8	4	4	8	12	7	3	9	9	4	4	5	5	13	9	104
X-05-210	9	10	6	8	8	15	7	6	6	7	7	6	6	11	16	128
D-06-001	9	5	9	9	9	9	8	6	6	5	5	4	4	7	6	101
W-06-001	18	10	5	8	11	15	14	9	8	7	6	8	6	15	15	155
W-06-003	15	9	15	16	17	14	13	8	8	6	6	8	8	18	15	176
W-06-004	15	10	13	10	8	13	15	8	8	8	8	9	9	16	16	166
W-06-007	17	16	16	13	10	15	11	8	8	6	6	6	7	17	16	172
W-06-008	14	13	18	12	15	7	13	8	8	3	3	0	0	15	16	145
W-06-009	11	11	5	11	10	16	16	8	8	6	6	5	6	15	11	145
W-06-010	5	7	10	6	9	6	7	3	3	1	1	0	0	7	7	72
W-06-012	11	10	10	6	8	9	11	6	6	4	4	3	3	12	7	110
W-06-015	11	11	15	11	10	15	11	9	9	6	6	0	0	13	10	137
W-06-016	11	10	10	10	10	15	11	7	8	6	6	5	7	14	10	140
W-06-017	11	6	7	5	4	11	11	6	6	2	2	1	1	8	8	89
W-06-018	14	16	10	14	10	11	14	7	7	5	5	3	3	11	12	142
W-06-019	11	15	6	12	10	9	6	7	7	6	6	2	1	8	10	116
W-06-020	10	8	9	6	8	8	7	3	3	5	5	3	3	8	8	94
W-06-021	3	6	5	9	5	10	0	5	7	4	6	1	2	6	3	72
W-06-022	7	6	15	11	7	6	12	5	5	3	3	5	5	7	9	106
W-06-023	19	13	15	13	10	14	13	7	7	9	9	8	8	13	16	174
W-06-025	17	15	10	15	8	10	14	8	8	5	5	5	5	16	10	151

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-06-026	17	17	15	19	12	8	7	8	8	5	5	4	4	20	18	167
W-06-027	14	15	13	13	10	9	10	5	5	5	5	0	0	17	18	139
W-06-028	18	16	16	16	13	10	10	6	6	8	8	2	4	17	18	168
W-06-029	12	6	10	10	7	6	4	5	5	3	3	5	5	7	13	101
W-06-030	8	7	6	5	6	8	10	6	6	6	6	8	8	11	10	111
W-06-031	15	14	18	14	11	7	12	1	1	7	7	6	6	11	15	145
W-06-032	15	10	15	10	9	15	11	2	5	6	6	5	5	15	18	147
W-06-036	16	13	6	11	8	11	3	4	4	7	7	5	1	10	6	112
W-06-037	11	10	10	6	7	10	13	5	5	5	5	4	4	6	9	110
W-06-040	10	11	6	11	9	11	5	4	4	6	6	0	0	10	6	99
W-06-043	8	3	2	3	6	15	8	7	7	7	7	3	5	12	3	96
W-06-045	17	15	18	11	11	16	16	7	7	7	7	3	3	16	16	170
W-06-046	10	9	13	6	9	13	13	5	5	4	4	3	2	7	16	119
W-06-050	14	13	10	13	2	13	16	3	3	8	8	8	8	13	0	132
W-06-054	5	5	6	5	8	7	1	7	7	7	7	3	3	8	5	84
W-06-055	7	10	15	10	10	4	2	5	5	0	0	0	0	4	7	79
W-06-056	16	10	10	10	6	15	13	2	2	9	9	6	6	7	5	126
W-06-058	10	5	4	5	4	13	10	8	8	7	7	8	4	12	6	111
W-06-060	14	10	10	10	5	4	5	5	5	5	5	3	3	7	10	101
W-06-061	17	17	18	15	18	19	19	9	9	8	8	9	9	18	19	212
W-06-062	10	10	15	9	11	11	7	9	9	6	6	9	9	12	6	139
W-06-063	8	2	8	1	7	2	14	1	1	1	1	0	0	6	11	63
W-06-064	5	10	15	8	6	7	11	1	1	0	0	0	0	4	6	74
W-06-065	6	6	10	5	8	11	18	6	6	5	5	9	9	12	12	128
W-06-066	16	13	10	11	9	13	16	7	7	7	7	6	6	10	7	145

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-06-067	16	11	16	11	15	15	16	9	9	9	9	9	9	16	16	186
W-06-068	16	16	19	14	14	12	15	8	8	8	8	9	9	15	16	187
W-06-070	12	10	18	12	10	18	15	7	7	8	8	5	8	16	17	171
W-06-074	16	13	16	7	10	17	14	5	5	9	9	9	9	18	15	172
W-06-076	16	15	13	11	18	15	15	9	9	9	9	10	10	15	18	192
W-06-077	16	14	15	13	7	15	15	3	3	7	7	9	9	14	14	161
W-06-078	15	14	13	10	11	14	14	6	6	7	7	5	5	15	13	155
W-06-079	16	11	15	11	11	16	11	8	8	8	8	8	8	11	16	166
W-06-083	16	18	16	18	16	16	18	10	9	9	9	9	9	16	16	205
W-06-085	14	12	15	11	10	16	17	7	7	8	8	9	9	14	13	170
W-06-087	19	19	10	18	9	18	20	10	10	10	10	10	10	18	18	209
W-06-088	10	6	6	8	13	17	11	9	9	8	8	9	9	13	11	147
W-06-089	17	13	15	16	12	10	16	8	8	5	5	3	3	16	16	163
W-06-090	17	18	20	18	17	20	20	9	9	8	8	10	10	19	20	223
W-06-091	18	16	19	12	15	18	18	9	9	9	9	10	10	18	18	208
W-06-092	11	5	16	5	10	16	14	8	8	8	8	9	5	10	16	149
W-06-093	15	14	14	11	8	16	15	9	9	9	9	9	9	13	7	167
W-06-094	10	8	6	8	9	7	3	8	8	6	6	4	2	12	3	100
W-06-096	14	8	2	6	6	7	5	7	7	6	6	3	2	11	5	95
W-06-097	17	17	17	14	14	9	8	7	7	5	5	4	3	16	15	158
W-06-098	12	9	12	16	6	9	7	8	8	2	2	6	6	13	13	129
W-06-100	17	16	18	11	11	10	9	6	6	5	5	6	6	16	16	158
W-06-102	15	12	10	11	10	12	7	6	6	6	6	4	4	13	8	130
W-06-106	10	15	10	15	6	10	11	8	8	6	6	5	5	15	3	133
W-06-110	18	16	18	15	15	16	16	9	9	9	9	10	9	16	17	202

Appendix 3: **Table showing the twelve individual habitat parameter scores adapted from Barbour *et al.* (1999) that were assessed at most sites where fishing effort was applied and were totalled to derive the Habitat Assessment Score for each site.**

Site Number	Cover/Epifaunal Substrate	Substrate Embeddedness	Velocity/Depth Regime	Sediment Deposition	Channel Flow Status	Channel Alteration	Frequency Riffles/Bends	Bank Stability		Vegetative Protection		Riparian Width		Pool Substrate Variability	Pool Size Variability	Habitat Assessment Score
								Left	Right	Left	Right	Left	Right			
W-06-112	15	11	10	11	6	16	11	9	9	9	9	10	10	15	3	154
W-06-113	18	16	19	13	11	19	19	7	7	10	10	8	8	18	18	201
W-06-114	18	15	19	9	13	17	17	6	6	9	9	5	6	15	15	179
W-06-119	16	16	15	13	6	16	16	7	7	9	9	10	10	16	18	184
W-06-121	11	17	13	9	9	8	12	8	8	8	8	8	8	9	10	146
W-06-124	10	10	15	9	10	18	11	8	8	9	9	10	10	10	10	157
W-06-126	19	18	20	17	13	19	17	10	10	10	10	10	10	17	20	220
W-06-133	15	18	15	18	10	18	17	9	9	10	10	10	10	6	10	185
W-06-134	16	20	19	19	6	19	19	10	10	10	10	10	10	13	15	206
W-06-138	16	13	13	11	10	16	16	5	5	9	9	9	6	10	18	166
W-06-139	16	16	16	14	10	17	16	6	6	9	9	9	7	14	17	182
W-06-140	16	15	17	14	11	16	16	9	9	8	8	6	8	14	18	185
W-06-141	18	13	16	13	8	16	16	8	8	8	8	3	10	16	19	180
W-06-143	15	10	15	10	8	10	10	7	7	7	7	7	7	11	10	141
W-06-144	15	16	15	13	10	18	16	6	6	9	9	9	9	15	15	181
W-06-146	11	13	6	11	5	16	13	9	9	7	7	9	9	15	6	146

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-02-002	DM, TS, NV, IH	E	472 seconds x 120 m	D-02-002_170402_E1
D-02-004	DM, JM, IH	E	241 seconds x 75 m	D-02-004_220402_E1
D-02-005	DM, AW	K	3 m²	D-02-005_020502_K1
D-02-008	DM, AW	E	206 seconds x 75 m	D-02-008_070502_E1
D-02-009	DM, AW	E	472 seconds x 150 m	D-02-009_070502_E1
D-02-010	DM, AW	E	192 seconds x 100 m	D-02-010_090502_E1
D-02-011	DM, AW	E	125 seconds x 75 m	D-02-011_090502_E1
D-02-012	DM, AW	E	247 seconds x 100 m	D-02-012_090502_E1
D-02-013	DM, AW	E	250 seconds x 200 m	D-02-013_100502_E1
D-02-014	DM, AW	E	228 seconds x 85 m	D-02-014_110502_E1
D-02-014	DM, AW	K	3 m²	D-02-014_110502_K1
D-02-015	DM, AW	E	435 seconds x 75 m	D-02-015_110502_E1
D-02-016	DM, AW	E	140 seconds x 50 m	D-02-016_110502_E1
D-02-018	DM, AW	A	Conversation with landowner	D-02-018_120502_A1
D-02-018	DM, AW	E	655 seconds x 175 m	D-02-018_120502_E1
D-02-022	DM, AW	K	2 m² riffle	D-02-022_120502_K1
D-02-023	DM, AW	K	3 m² riffle	D-02-023_120502_K1
D-02-026	DM, AW	E	20 seconds x 10 m	D-02-026_130502_E1
D-02-026	DM, AW	K	3 m² riffle	D-02-026_130502_K1
D-02-027	DM, AW	E	595 seconds x 100 m	D-02-027_130502_E1
D-02-028	DM, AW	E	330 seconds x 100 m	D-02-028_130502_E1
D-02-028	DM, AW	K	3 m² riffle	D-02-028_130502_K1
D-02-031	DM, AW	E	249 seconds x 75 m	D-02-031_150502_E1
D-02-033	DM, AW	E	406 seconds x 100 m	D-02-033_150502_E1
D-02-033	DM, AW	K	3 m² riffle	D-02-033_150502_K1
D-02-034	DM, AW	A	Conversation with TRWCD Technician	D-02-034_160502_A1
D-02-034	DM, AW	E	240 seconds x 100 m	D-02-034_160502_E1
D-02-035	DM, AW	E	100 seconds x 75 m	D-02-035_160502_E1
D-02-036	DM, AW	E	499 seconds x 150 m	D-02-036_160502_E1
D-02-037	DM, AW	O	Observed dead on rocks	D-02-037_160502_O1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-02-043	DM, AW	E	239 seconds x 100 m	D-02-043_210502_E1
D-02-044	DM, AW	E	283 seconds x 100 m	D-02-044_210502_E1
D-02-045	DM, AW	E	249 seconds x 75 m	D-02-045_220502_E1
D-02-048	DM, AW	E	39 seconds x 30 m	D-02-048_230502_E1
D-02-051	DM, AW	E	183 seconds x 75 m	D-02-051_240502_E1
D-02-054	DM, AW	E	138 seconds x 75 m	D-02-054_240502_E1
D-02-056	DM, AW	E	510 seconds x 125 m	D-02-056_240502_E1
D-02-058	DM, AW	E	447 seconds x 100 m	D-02-058_240502_E1
D-02-060	DM, AW	E	397 seconds x 150 m	D-02-060_270502_E1
D-02-060	DM, AW	K	2 m² rocks	D-02-060_270502_K1
D-02-061	DM, AW	E	697 seconds x 100 m	D-02-061_280502_E1
D-02-062	DM, AW	E	398 seconds x 50 m	D-02-062_280502_E1
D-02-065	DM	O	Angling spot, 2 dead on shore	D-02-065_290502_O1
D-02-065	DM	D	Sweeps	D-02-065_290502_D1
D-02-067	DM, AW	E	241 seconds x 100 m	D-02-067_290502_E1
D-02-068	DM, AW	E	424 seconds x 150 m	D-02-068_290502_E1
D-02-069	DM, AW	E	212 seconds x 100 m	D-02-069_290502_E1
D-02-070	DM, AW	L	30 min.	D-02-070_300502_L1
D-02-071	DM, AW	E	370 seconds x 125 m	D-02-071_300502_E1
D-02-072	DM	O	Observed dead on shore	D-02-072_030602_O1
D-02-073	DM, AW	L	18 hour over-night set	D-02-073_030602_L1
D-02-074	DM, AW	E	563 seconds x 75 m	D-02-074_030602_E1
D-02-075	DM, AW	E	560 seconds x 75 m	D-02-075_040602_E1
D-02-076	DM, AW	E	306 seconds x 100 m	D-02-076_050602_E1
D-02-077	DM, AW	E	547 seconds x 200 m	D-02-077_050602_E1
D-02-078	DM, AW	E	331 seconds x 150 m	D-02-078_050602_E1
D-02-081	DM, AW	E	391 seconds x 150 m	D-02-081_060602_E1
D-02-083	DM, AW	E	310 seconds x 100 m	D-02-083_060602_E1
D-02-084	DM, AW	E	564 seconds x 200 m	D-02-084_120602_E1
D-02-087	DM, AW	E	252 seconds x 75 m	D-02-087_120602_E1
D-02-088	DM, AW	E	211 seconds x 100 m	D-02-088_130602_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-02-089	DM, AW	E	451 seconds x 150 m	D-02-089_130602_E1
D-02-092	DM, AW	E	342 seconds x 150 m	D-02-092_130602_E1
D-02-093	DM, AW	E	365 seconds x 100 m	D-02-093_140602_E1
D-02-094	DM, AW	E	357 seconds x 100 m	D-02-094_180602_E1
D-02-095	DM, AW	E	270 seconds x 100 m	D-02-095_180602_E1
D-02-096	DM, AW, EW	E	896 seconds x 150 m	D-02-096_190602_E1
D-02-097	DM, AW, EW	E	459 seconds x 75 m	D-02-097_190602_E1
D-02-100	DM, AW	E	275 seconds x 100 m	D-02-100_200602_E1
D-02-101	DM, AW	E	474 seconds x 100 m	D-02-101_200602_E1
D-02-102	DM, AW	E	429 seconds x 100 m	D-02-102_200602_E1
D-02-104	DM, AW	E	324 seconds x 75 m	D-02-104_200602_E1
D-02-107	DM, AW	E	100 seconds x 50 m	D-02-107_210602_E1
D-02-108	DM, AW, KK	E	453 seconds x 150 m	D-02-108_210602_E1
D-02-111	DM, AW	E	314 seconds x 75 m	D-02-111_260602_E1
D-02-116	DM, AW	E	159 seconds x 75 m	D-02-116_030702_E1
D-02-118	DM, AW	E	316 seconds x 100 m	D-02-118_030702_E1
D-02-119	DM, AW	E	450 seconds x 150 m	D-02-119_040702_E1
D-02-121	DM, AW	E	227 seconds x 100 m	D-02-121_040702_E1
D-02-122	DM, AW	E	279 seconds x 100 m	D-02-122_040702_E1
D-02-124	DM, AW	B	5 m x 15 m	D-02-124_040702_B1
D-02-125	DM, AW	E	512 seconds x 75 m	D-02-125_090702_E1
D-02-126	DM, AW	B	5 m x 10 m	D-02-126_090702_B1
D-02-127	DM, AW	E	446 seconds x 150 m	D-02-127_090702_E1
D-02-130	DM, AW	B	20 m x 8 m	D-02-130_090702_B1
D-02-131	DM, AW	B	5 m x 20 m	D-02-131_090702_B1
D-02-132	DM, AW	E	195 seconds x 75 m	D-02-132_100702_E1
D-02-135	DM, AW	E	206 seconds x 75 m	D-02-135_100702_E1
D-02-137	DM, AW	E	365 seconds x 150 m	D-02-137_120702_E1
D-02-138	DM, AW	B	5 m x 15 m	D-02-138_120702_B1
D-02-139	DM, AW	E	248 seconds x 100 m	D-02-139_120702_E1
D-02-142	DM, AW	E	362 seconds x 100 m	D-02-142_170702_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-02-147	DM, AW	E	93 seconds x 50 m	D-02-147_170702_E1
D-02-149	DM, AW	E	132 seconds x 150 m	D-02-149_170702_E1
D-02-160	DM, AW	E	343 seconds x 100 m	D-02-160_230702_E1
D-02-161	DM, AW	E	241 seconds 125 m	D-02-161_230702_E1
D-02-164	DM, AW	E	136 seconds x 75 m	D-02-164_240702_E1
D-02-167	DM, AW	B	5 m x 8 m	D-02-167_240702_B1
D-02-170	DM, AW	E	201 seconds x 75 m	D-02-170_240702_E1
D-02-171	DM, AW	E	148 seconds x 30 m	D-02-171_250702_E1
D-02-173	DM, AW	E	100 seconds x 50 m	D-02-173_250702_E1
D-02-178	DM, AW	B	10 m x 8 m	D-02-178_250702_B1
D-02-179	DM, AW	E	318 seconds x 100 m	D-02-179_300702_E1
D-02-180	DM, AW	E	295 seconds x 100 m	D-02-180_300702_E1
D-02-181	DM, AW	E	593 seconds x 150 m	D-02-181_310702_E1
D-02-182	DM, AW	E	406 seconds x 75 m	D-02-182_310702_E1
D-02-183	DM, AW	E	215 seconds x 100 m	D-02-183_310702_E1
D-02-184	DM, AW	E	394 seconds x 150 m	D-02-184_310702_E1
D-02-185	DM, AW	E	69 seconds x 30 m	D-02-185_010802_E1
D-02-188	DM, AW	E	69 seconds x 30 m	D-02-188_010802_E1
D-02-190	DM, AW	E	89 seconds x 30 m	D-02-190_010802_E1
D-02-191	DM, RO, NV	E	19 seconds x 100 m	D-02-191_150802_E1
D-02-192	DM, RO, NV	E	319 seconds x 50 m	D-02-192_160802_E1
D-02-193	DM, BM	B	5 m x 15 m	D-02-193_200802_B1
D-02-193	DM, BM	E	717 seconds x 150 m	D-02-193_200802_E1
D-02-194	DM, BM	E	327 seconds x 75 m	D-02-194_200802_E1
D-02-195	DM, BR	E	429 seconds x 125 m	D-02-195_210802_E1
D-02-196	DM, BR	E	839 seconds x 150 m	D-02-196_210802_E1
D-02-197	DM, BT	B	5 m x 20 m	D-02-197_220802_B1
D-02-197	DM, BT	B	5 m x 5 m	D-02-197_220802_B2
D-02-197	DM, BT	E	759 seconds x 100 m	D-02-197_220802_E1
D-02-198	DM, BT	E	593 seconds x 75 m	D-02-198_220802_E1
D-02-199	DM, BL	E	494 seconds x 100 m	D-02-199_270802_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-02-200	DM, BL	E	340 seconds x 75 m	D-02-200_270802_E1
D-02-201	DM, JM	E	376 seconds x 100 m	D-02-201_081002_E1
B-03-001	JA, HW, AW	E	433 seconds x 75 m	B-03-001_210503_E1
B-03-003	JA, HW	E	400 seconds x 100 m	B-03-003_230503_E1
B-03-004	JA, HW	E	1305 seconds x 50 m	B-03-004_230503_E1
B-03-005	JA, HW	E	580 seconds x 130 m	B-03-005_230503_E1
B-03-007	JA, HW	E	146 seconds x 50 m	B-03-007_260503_E1
B-03-009	JA, HW	E	283 seconds x 75 m	B-03-009_260503_E1
B-03-012	JA, HW	E	158 seconds x 50 m	B-03-012_260503_E1
B-03-013	JA, HW	E	545 seconds x 175 m	B-03-013_270503_E1
B-03-015	JA, HW	E	135 seconds x 20 m	B-03-015_270503_E1
B-03-016	JA, HW	E	264 seconds x 50 m	B-03-016_270503_E1
B-03-017	JA, HW	E	393 seconds x 75 m	B-03-017_280503_E1
B-03-019	JA, HW	B	16 m x 40 m	B-03-019_280503_B1
B-03-020	JA, HW	E	223 seconds x 60 m	B-03-020_290503_E1
B-03-026	JA, HW	E	146 seconds x 75 m	B-03-026_290503_E1
B-03-028	JA, HW	E	224 seconds x 75 m	B-03-028_300503_E1
B-03-030	JA, HW	B	10 m x 25 m	B-03-030_300503_B1
B-03-031	JA, HW	E	1284 seconds x 100 m	B-03-031_300503_E1
B-03-033	JA, HW	E	448 seconds x 100 m	B-03-033_020603_E1
B-03-033	JA, HW	L	5 min.	B-03-033_020603_L1
B-03-035	JA, HW	B	10 m x 45 m	B-03-035_020603_B1
B-03-040	JA, HW	E	223 seconds x 75 m	B-03-040_030603_E1
B-03-041	JA, HW	E	409 seconds x 125 m	B-03-041_030603_E1
B-03-048	JA, HW	B	15 m x 60 m	B-03-048_040603_B1
B-03-050	JA, HW	E	344 seconds x 120 m	B-03-050_040603_E1
B-03-052	JA, HW	E	724 seconds x 125 m	B-03-052_040603_E1
B-03-053	JA, HW	E	200 seconds x 50 m	B-03-053_050603_E1
B-03-055	JA, HW	E	212 seconds x 50 m	B-03-055_050603_E1
B-03-060	JA, HW	E	278 seconds x 50 m	B-03-060_050603_E1
B-03-061	JA, HW	E	322 m x 80 m	B-03-061_090603_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
B-03-062	JA, HW	E	270 seconds x 50 m	B-03-062_090603_E1
B-03-064	JA, HW	E	162 seconds x 100 m	B-03-064_100603_E1
B-03-065	JA, HW	E	330 seconds x 120 m	B-03-065_100603_E1
B-03-067	JA, HW	E	525 seconds x 125 m	B-03-067_100603_E1
B-03-070	JA, HW	E	386 seconds x 150 m	B-03-070_110603_E1
B-03-071	JA, HW	E	332 seconds x 100 m	B-03-071_110603_E1
B-03-075	JA, HW	E	375 seconds x 75 m	B-03-075_120603_E1
B-03-076	JA, HW	E	233 seconds x 75 m	B-03-076_120603_E1
B-03-077	JA, HW	E	549 seconds x 75 m	B-03-077_120603_E1
B-03-083	JA, HW	E	336 seconds x 30 m	B-03-083_160603_E1
B-03-084	JA, HW	E	321 seconds x 40 m	B-03-084_160603_E1
B-03-085	JA, HW	E	423 seconds x 100 m	B-03-085_170603_E1
B-03-086	JA, HW	B	12 m x 30 m	B-03-086_170603_B1
B-03-087	JA, HW	B	14 m x 20 m	B-03-087_170603_B1
B-03-088	JA, HW	E	382 seconds x 100 m	B-03-088_180603_E1
B-03-089	JA, HW	B	18 m x 30 m	B-03-089_180603_B1
B-03-091	JA, HW	B	10 m x 20 m	B-03-091_180603_B1
B-03-093	JA, HW	B	8 m x 25 m	B-03-093_180603_B1
B-03-094	JA, HW	B	15 m x 30 m	B-03-094_180603_B1
B-03-094	JA, HW	E	325 seconds x 75 m	B-03-094_180603_E1
B-03-095	JA, HW	E	533 seconds x 100 m	B-03-095_190603_E1
B-03-097	JA, HW	B	15 m x 30 m	B-03-097_190603_B1
B-03-098	JA, HW	E	325 seconds x 75 m	B-03-098_190603_E1
B-03-099	JA, HW	E	301 seconds x 75 m	B-03-099_200603_E1
B-03-101	JA, HW	B	15 m x 30 m	B-03-101_200603_B1
B-03-102	JA, HW	B	15 m x 25 m	B-03-102_230603_B1
B-03-103	JA, HW	E	321 seconds x 60 m	B-03-103_230603_E1
B-03-104	JA, HW	E	294 seconds x 40 m	B-03-104_230603_E1
B-03-112	JA, HW	E	497 seconds x 125 m	B-03-112_260603_E1
B-03-115	JA, HW	E	343 seconds x 125 m	B-03-115_270603_E1
B-03-116	JA, HW	E	366 seconds x 50 m	B-03-116_270603_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
B-03-117	JA, HW	E	126 seconds x 30 m	B-03-117_270603_E1
B-03-118	JA, HW	E	265 seconds x 60 m	B-03-118_270603_E1
B-03-119	JA, HW	E	183 seconds x 50 m	B-03-119_020703_E1
B-03-120	JA, HW	E	223 seconds x 50 m	B-03-120_020703_E1
B-03-121	JA, HW	E	183 seconds x 40 m	B-03-121_030703_E1
B-03-122	JA, HW	E	516 seconds x 75 m	B-03-122_030703_E1
B-03-124	JA, HW	E	381 seconds x 125 m	B-03-124_030703_E1
B-03-126	JA, HW	B	20 m x 20 m	B-03-126_040703_B1
B-03-128	JA, HW	D	1 sweep	B-03-128_040703_D1
B-03-132	JA, HW	E	89 seconds x 30 m	B-03-132_070703_E1
B-03-134	JA, HW	E	111 seconds x 30 m	B-03-134_070703_E1
B-03-136	JA, HW	E	280 seconds x 40 m	B-03-136_070703_E1
B-03-141	JA, HW	E	121 seconds x 10 m	B-03-141_080703_E1
B-03-142	JA, HW	E	179 seconds x 20 m	B-03-142_080703_E1
B-03-143	JA, HW	B	13 m x 25 m	B-03-143_080703_B1
B-03-145	JA, HW	B	15 m x 40 m	B-03-145_090703_B1
B-03-148	JA, HW	E	299 seconds x 50 m	B-03-148_090703_E1
B-03-150	JA, HW	B	30 m x 30 m	B-03-150_090703_B1
B-03-151	JA, HW	E	398 seconds x 175 m	B-03-151_100703_E1
B-03-151	JA, HW	K	2 m²	B-03-151_100703_K1
B-03-152	JA, HW	E	489 seconds x 100 m	B-03-152_100703_E1
B-03-156	JA, HW	O	Observed in pools	B-03-156_110703_O1
B-03-157	JA, HW	O	Observed in pools	B-03-157_110703_O1
B-03-158	JA, HW	B	15 m x 30 m	B-03-158_110703_B1
B-03-159	JA, HW	E	235 seconds x 50 m	B-03-159_110703_E1
B-03-160	JA, HW	B	10 m x 20 m	B-03-160_110703_B1
B-03-163	JA, HW	B	20 m x 20 m	B-03-163_140703_B1
B-03-181	JA, HW	E	436 seconds x 75 m	B-03-181_150703_E1
B-03-182	JA, HW	E	254 seconds x 30 m	B-03-182_160703_E1
B-03-183	JA, HW	B	10 m x 30 m	B-03-183_160703_B1
B-03-184	JA, HW	E	218 seconds x 20 m	B-03-184_160703_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
B-03-185	JA, HW	E	583 seconds x 75 m	B-03-185_160703_E1
B-03-189	JA, HW	B	10 m x 25 m	B-03-189_160703_B1
B-03-190	JA, HW	B	15 m x 35 m	B-03-190_160703_B1
B-03-191	JA, HW	E	469 seconds x 75 m	B-03-191_170703_E1
B-03-192	JA, HW	B	10 m x 25 m	B-03-192_170703_B1
B-03-193	JA, HW	B	10 m x 25 m	B-03-193_170703_B1
B-03-194	JA, HW	B	6 m x 20 m	B-03-194_220703_B1
B-03-199	JA, HW	E	277 seconds x 30 m	B-03-199_230703_E1
B-03-200	JA, HW	B	10 m x 25 m	B-03-200_230703_B1
B-03-202	JA, HW	E	127 seconds x 15 m	B-03-202_230703_E1
B-03-204	JA, HW	B	10 m x 15 m	B-03-204_230703_B1
B-03-206	JA, HW	E	736 seconds x 100 m	B-03-206_240703_E1
B-03-207	JA, HW	E	660 seconds x 180 m	B-03-207_240703_E1
B-03-209	JA, HW	B	8 m x 20 m	B-03-209_240703_B1
B-03-212	JA, HW	E	726 seconds x 200 m	B-03-212_240703_E1
B-03-218	JA, HW	D	1 sweep	B-03-218_250703_D1
B-03-224	JA, HW, AW	E	301 seconds x 50 m	B-03-224_050803_E1
B-03-226	JA, HW, AW	B	10 m x 10 m	B-03-226_060803_B1
B-03-226	JA, HW, AW	E	193 seconds x 30 m	B-03-226_060803_E1
B-03-229	JA, HW, AW	D	Sweeps	B-03-229_060803_D1
B-03-235	JA, HW, AW	E	222 seconds x 50 m	B-03-235_060803_E1
B-03-239	JA, HW, AW	B	15 m x 30 m	B-03-239_070803_B1
B-03-241	JA, HW, AW	E	355 seconds x 30 m	B-03-241_070803_E1
B-03-249	JA, HW, AW	B	12 m x 20 m	B-03-249_080803_B1
D-03-002	DM, AW, JT, JC, JA, HW	E	1262 seconds x 200 m	D-03-002_100503_E1
D-03-002	DM, AW, JT, JC, JA, HW	K	3 m^2 riffle	D-03-002_100503_K1
D-03-003	DM, AW, JT, JC, JA, HW	E	809 seconds x 100 m	D-03-003_100503_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-03-004	DM, AW, JT, JC, JA, HW	E	552 seconds x 150 m	D-03-004_110503_E1
D-03-005	DM, AW, JT, JC, JA, HW	E	402 seconds x 80 m	D-03-005_110503_E1
D-03-006	DM, AW, JT, JC, JA, HW	E	649 seconds x 125 m	D-03-006_120503_E1
D-03-009	DM, AW, JT, JC, JA, HW	E	400 seconds x 40 m	D-03-009_130503_E1
D-03-011	DM, AW, JT, JC, JA, HW	E	575 seconds x 75 m	D-03-011_130503_E1
D-03-011	DM, AW, JT, JC, JA, HW	K	2 m²	D-03-011_130503_K1
D-03-012	DM, AW, JT, JC, JA, HW	E	492 seconds x 100 m	D-03-012_130503_E1
D-03-015	DM, AW, JT, JC, JA, HW	E	714 seconds x 125 m	D-03-015_140503_E1
D-03-016	DM, AW, JT, JC, JA, HW	E	418 seconds x 100 m	D-03-016_140503_E1
D-03-017	DM, AW, JT, JC, JA, HW	E	200 seconds x 60 m	D-03-017_140503_E1
D-03-019	DM, AW, JT, JC, JA, HW	E	566 seconds x 125 m	D-03-019_140503_E1
D-03-023	DM, AW	E	552 seconds x 200 m	D-03-023_030603_E1
D-03-024	DM, AW	B	10 m x 30 m	D-03-024_030603_B1
D-03-025	DM, AW	E	317 seconds x 75 m	D-03-025_030603_E1
D-03-027	DM, AW	B	10 m x 10 m	D-03-027_040603_B1
D-03-029	DM, AW	E	340 seconds x 100 m	D-03-029_040603_E1
D-03-035	DM, AW, MK, SP, DS	B	15 m x 50 m	D-03-035_050603_B1
D-03-035	DM, AW, MK, SP, DS	E	401 seconds x 125 m	D-03-035_050603_E1
D-03-036	DM, AW, MK, SP, DS	E	647 seconds x 125 m	D-03-036_050603_E1
D-03-037	DM, AW, MK, SP, DS	E	416 seconds x 75 m	D-03-037_050603_E1
D-03-038	DM, AW	E	1089 seconds x 150 m	D-03-038_060603_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-03-040	DM, AW	E	314 seconds x 100 m	D-03-040_100603_E1
D-03-041	DM, AW	E	269 seconds x 100 m	D-03-041_100603_E1
D-03-044	DM, AW	E	301 seconds x 80 m	D-03-044_110603_E1
D-03-045	DM, AW	E	240 seconds x 100 m	D-03-045_110603_E1
D-03-047	DM, AW	E	111 seconds x 35 m	D-03-047_110603_E1
D-03-049	DM, AW	E	211 seconds x 100 m	D-03-049_110603_E1
D-03-054	DM, AW	E	122 seconds x 40 m	D-03-054_130603_E2
D-03-054	DM, AW	E	540 seconds x 150 m	D-03-054_130603_E1
D-03-057	DM, AW	E	427 seconds x 125 m	D-03-057_130603_E1
D-03-058	DM, AW	E	501 seconds x 150 m	D-03-058_160603_E1
D-03-059	DM, AW	E	421 seconds x 100 m	D-03-059_160603_E1
D-03-060	DM, AW	E	99 seconds x 50 m	D-03-060_160603_E1
D-03-061	DM, AW	E	222 seconds x 80 m	D-03-061_170603_E2
D-03-061	DM, AW	E	718 seconds x 150 m	D-03-061_170603_E1
D-03-062	DM, AW	E	346 seconds x 75 m	D-03-062_170603_E1
D-03-064	DM, AW	B	5 m x 10 m	D-03-064_170603_B1
D-03-065	DM, AW	B	4 m x 50 m	D-03-065_170603_B1
D-03-066	DM, AW	E	452 seconds x 75 m	D-03-066_180603_E1
D-03-067	DM, AW	E	262 seconds x 50 m	D-03-067_180603_E1
D-03-071	DM, AW	B	8 m x 20 m	D-03-071_230603_B1
D-03-073	DM, AW	E	187 seconds x 30 m	D-03-073_230603_E1
D-03-075	DM, AW	E	110 seconds x 30 m	D-03-075_230603_E1
D-03-076	DM, AW	E	200 seconds x 40 m	D-03-076_230603_E1
D-03-078	DM, AW	B	8 m x 15 m	D-03-078_240603_B1
D-03-081	DM, AW	E	403 seconds x 100 m	D-03-081_240603_E1
D-03-083	DM, AW	E	191 seconds x 25 m	D-03-083_260603_E1
D-03-084	DM, AW	E	618 seconds x 75 m	D-03-084_260603_E1
D-03-085	DM, AW	E	520 seconds x 150 m	D-03-085_270603_E1
D-03-086	DM, AW	E	311 seconds x 75 m	D-03-086_270603_E1
D-03-088	DM, AW	E	368 seconds x 75 m	D-03-088_020703_E1
D-03-089	DM, AW	E	304 seconds x 75 m	D-03-089_020703_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-03-090	DM, AW	D	10 sweeps below dam spillway	D-03-090_020703_D1
D-03-091	DM, AW	E	274 seconds x 75 m	D-03-091_030703_E1
D-03-094	DM, AW	E	177 seconds x 25 m	D-03-094_080703_E1
D-03-095	DM, AW	E	195 seconds x 25 m	D-03-095_080703_E1
D-03-096	DM, AW	E	374 seconds x 35 m	D-03-096_080703_E1
D-03-097	DM, AW	E	579 seconds x 150 m	D-03-097_090703_E1
D-03-098	DM, AW	B	10 m x 20 m	D-03-098_090703_B1
D-03-100	DM, AW	E	188 seconds x 30 m	D-03-100_090703_E1
D-03-101	DM, AW	E	245 seconds x 50 m	D-03-101_090703_E1
D-03-102	DM, AW	E	304 seconds x 50 m	D-03-102_110703_E1
D-03-103	DM, AW	E	326 seconds x 100 m	D-03-103_110703_E1
D-03-105	DM, AW	D	6 sweeps	D-03-105_110703_D1
D-03-110	DM, AW	E	133 seconds x 30 m	D-03-110_140703_E1
D-03-111	DM, AW	B	10 m x 20 m	D-03-111_140703_B1
D-03-117	DM, AW	E	107 seconds x 75 m	D-03-117_150703_E1
D-03-120	DM, AW	O	Observed in pool under bridge	D-03-120_160703_O1
D-03-121	DM, AW	E	216 seconds x 60 m	D-03-121_160703_E1
D-03-122	DM, AW	E	256 seconds x 75 m	D-03-122_160703_E1
D-03-124	DM, AW	E	313 seconds x 100 m	D-03-124_160703_E1
D-03-126	DM, AW	B	5 m x 15 m	D-03-126_170703_B1
D-03-129	DM, AW	D	2 sweeps	D-03-129_170703_D1
D-03-132	DM, AW	E	107 seconds x 30 m	D-03-132_170703_E1
D-03-134	DM, AW	B	20 m x 30 m	D-03-134_170703_B1
D-03-138	DM, AW	E	144 seconds x 30 m	D-03-138_180703_E1
D-03-142	AW, JT	E	540 seconds x 200 m	D-03-142_220703_E1
D-03-143	AW, JT	E	816 seconds x 150 m	D-03-143_220703_E1
D-03-144	AW, JT	E	662 seconds x 150 m	D-03-144_220703_E1
D-03-145	AW, JT	E	402 seconds x 150 m	D-03-145_220703_E1
D-03-152	AW, JT	E	432 seconds x 150 m	D-03-152_230703_E1
D-03-154	AW, JT	E	756 seconds x 200 m	D-03-154_230703_E1
D-03-155	AW, JT	E	288 seconds x 75 m	D-03-155_230703_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-03-156	AW, JT	E	141 seconds x 50 m	D-03-156_230703_E1
D-03-164	AW, JT	E	264 seconds x 100 m	D-03-164_240703_E1
D-03-167	AW, JT	E	664 seconds x 200 m	D-03-167_250703_E1
D-03-168	DM, NM, BM	E	1375 seconds x 300 m	D-03-168_100903_E1
D-03-170	DM, NM, BM	E	1540 seconds x 300 m	D-03-170_110903_E1
W-03-001	DM, AW, JT, JC, JA, HW	B	8 m x 30 m	W-03-001_200503_B1
W-03-002	JT, JC	B	8 m x 30 m	W-03-002_210503_B1
W-03-003	DM, JT, JC	E	165 seconds x 25 m	W-03-003_210503_E1
W-03-004	DM, JT, JC	E	333 seconds x 70 m	W-03-004_210503_E1
W-03-008	DM, JT, JC	E	149 seconds x 10 m	W-03-008_220503_E1
W-03-009	DM, AW, JT, JC, JA, HW	E	361 seconds x 75 m	W-03-009_220503_E1
W-03-010	DM, JT, JC	E	195 seconds x 75 m	W-03-010_220503_E1
W-03-013	DM, AW, JT, JC, JA, HW	E	380 seconds x 100 m	W-03-013_230503_E1
W-03-019	AW, JT, JC	E	280 seconds x 60 m	W-03-019_260503_E1
W-03-020	AW, JT, JC	E	202 seconds x 75 m	W-03-020_260503_E1
W-03-026	AW, JT, JC	B	10 m x 15 m	W-03-026_270503_B1
W-03-030	AW, JT, JC	B	8 m x 10 m	W-03-030_280503_B1
W-03-030	AW, JT, JC	E	198 seconds x 50 m	W-03-030_280503_E1
W-03-035	AW, JT, JC	E	161 seconds x 50 m	W-03-035_290503_E1
W-03-036	AW, JT, JC	E	227 seconds x 30 m	W-03-036_290503_E1
W-03-044	JT, JC	B	6 m x 15 m	W-03-044_030603_B1
W-03-046	JT, JC	E	369 seconds x 50 m	W-03-046_030603_E1
W-03-049	JT, JC	E	214 seconds x 50 m	W-03-049_030603_E1
W-03-050	JT, JC	E	100 seconds x 50 m	W-03-050_040603_E1
W-03-055	JT, JC	B	5 m x 50 m	W-03-055_040603_B1
W-03-065	JT, JC	D	25 sweeps	W-03-065_050603_D1
W-03-066	JT, JC	D	2 sweeps	W-03-066_050603_D1
W-03-067	JT, JC	E	123 seconds x 75 m	W-03-067_060603_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-03-069	JT, JC	B	20 m x 40 m	W-03-069_060603_B1
W-03-070	JT, JC	D	One sweep through culvert	W-03-070_060603_D1
W-03-070	JT, JC	E	100 seconds x 30 m	W-03-070_060603_E1
W-03-072	JT, JC	E	200 seconds x 100 m	W-03-072_090603_E1
W-03-077	JT, JC	E	403 seconds x 200 m	W-03-077_100603_E1
W-03-079	JT, JC	E	100 seconds x 50 m	W-03-079_100603_E1
W-03-080	JT, JC	D	1 sweep	W-03-080_100603_D1
W-03-084	JT, JC	D	5 sweeps	W-03-084_110603_D1
W-03-087	JT, JC	D	1 sweep	W-03-087_110603_D1
W-03-088	JT, JC	E	75 seconds x 10 m	W-03-088_110603_E1
W-03-091	JT, JC	E	142 seconds x 100 m	W-03-091_130603_E1
W-03-092	JT, JC	E	269 seconds x 100 m	W-03-092_130603_E1
W-03-093	JT, JC	E	649 seconds x 225 m	W-03-093_130603_E1
W-03-094	JT, JC	B	8 m x 100 m	W-03-094_160603_B1
W-03-095	JT, JC	E	183 seconds x 50 m	W-03-095_160603_E1
W-03-096	JT, JC	E	153 seconds x 20 m	W-03-096_160603_E1
W-03-097	JT, JC	E	142 seconds x 100 m	W-03-097_170603_E1
W-03-098	JT, JC	B	10 m x 50 m	W-03-098_170603_B1
W-03-100	JT, JC	E	50 seconds x 10 m	W-03-100_170603_E1
W-03-101	JT, JC	E	309 seconds x 100 m	W-03-101_180603_E1
W-03-104	JT, JC	E	180 seconds x 50 m	W-03-104_180603_E1
W-03-107	JT, JC	E	228 seconds x 150 m	W-03-107_180603_E1
W-03-110	JT, JC	E	188 seconds x 100 m	W-03-110_190603_E1
W-03-111	JT, JC	E	32 seconds x 20 m	W-03-111_190603_E1
W-03-112	JT, JC	E	387 seconds x 150 m	W-03-112_190603_E1
W-03-113	JT, JC	E	313 seconds x 100 m	W-03-113_240603_E1
W-03-114	JT, JC	E	108 seconds x 50 m	W-03-114_240603_E1
W-03-141	JT, JC	D	1 sweep	W-03-141_260603_D1
W-03-142	JT, JC	D	10 sweeps	W-03-142_260603_D1
W-03-143	JT, JC	E	33 seconds x 15 m	W-03-143_020703_E1
W-03-144	JT, JC	E	360 seconds x 150 m	W-03-144_020703_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-03-146	JT, JC	E	280 seconds x 100 m	W-03-146_020703_E1
W-03-150	JT, JC	E	243 seconds x 75 m	W-03-150_030703_E1
W-03-151	JT, JC	E	66 seconds x 50 m	W-03-151_030703_E1
W-03-154	JT, JC	D	3 sweeps in minnow trap	W-03-154_040703_D1
W-03-155	JT, JC	E	440 seconds x 100 m	W-03-155_040703_E1
W-03-158	JT, JC	B	5 m x 30 m	W-03-158_040703_B1
W-03-162	JT, JC	E	113 seconds x 50 m	W-03-162_050703_E1
W-03-165	JT, JC	E	486 seconds x 150 m	W-03-165_050703_E1
W-03-167	JT, JC	B	10 m x 15 m	W-03-167_060703_B1
W-03-173	JT, JC	B	4 m x 10 m	W-03-173_060703_B1
W-03-176	JT, JC	E	147 seconds x 100 m	W-03-176_070703_E1
W-03-182	JT, JC	B	5 m x 30 m	W-03-182_080703_B1
W-03-185	JT, JC	B	10 m x 30 m	W-03-185_080703_B1
W-03-186	JT, JC	D	6 sweeps	W-03-186_090703_D1
W-03-189	JT, JC	B	7 m x 20 m	W-03-189_090703_B1
W-03-191	JT, JC	E	417 seconds x 150 m	W-03-191_160703_E1
W-03-194	JT, JC	E	316 seconds x 50 m	W-03-194_160703_E1
W-03-195	JT, JC	B	6 m x 25 m	W-03-195_160703_B1
W-03-198	JT, JC	E	308 seconds x 100 m	W-03-198_170703_E1
W-03-201	JT, JC	B	8 m x 12 m	W-03-201_170703_B1
W-03-203	JT, JC	E	175 seconds x 100 m	W-03-203_180703_E1
W-03-204	JT, JC	E	51 seconds x 10 m	W-03-204_180703_E1
W-03-205	JT, JC	E	264 seconds x 150 m	W-03-205_180703_E1
W-03-206	JT, JC	E	375 seconds x 100 m	W-03-206_310703_E1
W-03-210	JT, JC	E	432 seconds x 150 m	W-03-210_310703_E1
W-03-211	JT, JC	B	12 m x 20 m	W-03-211_310703_B1
W-03-223	JT, JC	E	270 seconds x 50 m	W-03-223_050803_E1
W-03-224	JT, JC	E	180 seconds x 100 m	W-03-224_050803_E1
W-03-229	JT, JC	B	8 m x 15 m	W-03-229_060803_B1
W-03-237	JT, JC	E	628 seconds x 100 m	W-03-237_060803_E1
W-03-238	JT, JC	E	619 seconds x 150 m	W-03-238_070803_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-03-239	JT, JC	E	387 seconds x 100 m	W-03-239_070803_E1
W-03-247	JT, JC	E	290 seconds x 75 m	W-03-247_080803_E1
W-03-248	JT, JC	E	147 seconds x 50 m	W-03-248_080803_E1
W-03-249	JT, JC	E	300 seconds x 75 m	W-03-249_110803_E1
W-03-251	JT, JC	E	218 seconds x 75 m	W-03-251_110803_E1
W-03-266	JT, JC	E	169 seconds x 60 m	W-03-266_130803_E1
W-03-267	JT, JC	B	3 m x 20 m	W-03-267_130803_B1
B-04-002	AW, HW, JE	E	199 seconds x 100 m	B-04-002_010504_E1
B-04-003	AW, HW, JE	B	11 m x 25 m	B-04-003_010504_B1
B-04-003	AW, HW, JE	E	249 seconds x 15 m	B-04-003_010504_E1
B-04-004	AW, HW, JE	E	564 seconds x 150 m	B-04-004_010504_E1
B-04-006	AW, HW, JE	E	300 seconds x 80 m	B-04-006_010504_E1
B-04-008	AW, HW, JE	E	615 seconds x 100 m	B-04-008_010504_E1
B-04-010	AW, HW, JC, JE	E	482 seconds x 109 m	B-04-010_020504_E1
B-04-010	AW, HW, JC, JE	K	1 m²	B-04-010_020504_K1
B-04-011	AW, HW, JC, JE	E	224 seconds x 90 m	B-04-011_020504_E1
B-04-012	AW, HW, JC, JE	O	Observed spawning	B-04-012_020504_O1
B-04-013	AW, HW, JC, JE	O	Observed spawning	B-04-013_020504_O1
B-04-014	AW, HW, JC, JE	O	Observed spawning	B-04-014_020504_O1
B-04-015	AW, HW, JC, JE	O	Observed spawning	B-04-015_020504_O1
B-04-016	AW, HW, JC, JE	O	Observed spawning	B-04-016_020504_O1
B-04-017	AW, HW, JE, AP	E	399 seconds x 10 m	B-04-017_020504_E1
B-04-017	AW, HW, JE, AP	K	1 m²	B-04-017_020504_K1
B-04-018	HW, JE, AP	B	10 m x 20 m	B-04-018_030504_B1
B-04-019	HW, JE, AP	E	349 seconds x 100 m	B-04-019_030504_E1
B-04-020	HW, JE, AP	B	10 m x 25 m	B-04-020_030504_B1
B-04-020	HW, JE, AP	B	10 m x 25 m	B-04-020_030504_B2
B-04-021	HW, JE, AP	E	252 seconds x 15 m	B-04-021_030504_E1
B-04-022	HW, JE, AP	B	10 m x 30 m	B-04-022_030504_B1
B-04-026	HW, JE, AP	E	460 seconds x 120 m	B-04-026_040504_E1
B-04-027	HW, JE, AP	E	295 seconds x 70 m	B-04-027_040504_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
B-04-028	HW, JE, AP	B	20 m x 20 m	B-04-028_040504_B1
B-04-030	HW, JE, AP	E	451 seconds x 71 m	B-04-030_040504_E1
B-04-031	AW, HW	B	18 m x 10 m	B-04-031_060504_B1
B-04-031	AW, HW	E	126 seconds x 75 m	B-04-031_060504_E1
B-04-037	AW, HW	E	257 seconds x 75 m	B-04-037_060504_E1
B-04-039	AW, HW	O	Observed	B-04-039_060504_O1
B-04-041	AW, HW	B	20 m x 5 m	B-04-041_070504_B1
B-04-043	AW, HW	B	10 m x 8 m	B-04-043_070504_B1
B-04-044	AW, HW	E	310 seconds x 150 m	B-04-044_070504_E1
B-04-045	AW, HW	K	2 m^2	B-04-045_070504_K1
B-04-046	AW, HW	E	233 seconds x 75 m	B-04-046_100504_E1
B-04-047	AW, HW	E	375 seconds x 100 m	B-04-047_100504_E1
B-04-047	AW, HW	K	2 m^2	B-04-047_100504_K1
B-04-048	AW, HW	B	5 m x 5 m	B-04-048_100504_B1
B-04-055	AW, HW	B	10 m x 15 m	B-04-055_130504_B1
B-04-055	AW, HW	E	370 seconds x 65 m	B-04-055_130504_E1
B-04-058	AW, HW	E	199 seconds x 75 m	B-04-058_140504_E1
B-04-060	AW, HW	E	151 seconds x 75 m	B-04-060_140504_E1
B-04-064	AW, HW	B	22 m x 25 m	B-04-064_140504_B1
B-04-066	HW, DM	E	148 seconds x 30 m	B-04-066_170504_E1
B-04-069	HW, DM	L	20 min. x 3	B-04-069_180504_L1
B-04-070	HW, DM	E	127 seconds x 17 m	B-04-070_180504_E1
B-04-072	HW	K	4 m^2	B-04-072_180504_K1
B-04-073	HW, DM	K	3 m^2	B-04-073_190504_K1
B-04-073	HW, DM	O	Observed below structure	B-04-073_190504_O1
B-04-074	HW, DM	K	1 m^2	B-04-074_190504_K1
B-04-075	HW, DM, IH	O	Observed walleye larval drift collection	B-04-075_200504_O1
B-04-076	HW, DM	L	10 min.	B-04-076_200504_L1
B-04-077	HW, DM	L	10 min.	B-04-077_200504_L1
B-04-078	HW, DM	E	190 seconds x15 m	B-04-078_200504_E1
B-04-078	HW, DM	L	20 min.	B-04-078_200504_L1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
B-04-080	HW, DM	O	Observed in pool	B-04-080_200504_O1
B-04-083	HW, DM	D	6 m^2	B-04-083_200504_D1
B-04-084	HW, DM	O	Observed trapped in pool	B-04-084_200504_O1
B-04-085	HW, DM	O	Observed trapped in pool	B-04-085_200504_O1
B-04-086	HW, DM, AM	B	30 m x 8 m	B-04-086_210504_B1
B-04-086	HW, DM, AM	E	143 seconds x 15 m	B-04-086_210504_E1
B-04-087	HW	L	10 min.	B-04-087_220504_L1
B-04-088	HW	L	10 min.	B-04-088_250504_L1
B-04-090	HW	L	10 min.	B-04-090_250504_L1
B-04-092	HW	K	4 m^2	B-04-092_250504_K1
B-04-093	AW, HW	B	10 m x 15 m	B-04-093_310504_B1
B-04-094	AW, HW	B	3 m x 15 m	B-04-094_310504_B1
B-04-095	AW, HW	B	15 m x 20 m	B-04-095_310504_B1
B-04-101	AW, HW	B	6 m x 10 m	B-04-101_010604_B1
B-04-102	AW, HW	E	267 seconds x 75 m	B-04-102_010604_E1
B-04-104	AW, HW	L	30 min.	B-04-104_010604_L1
B-04-105	AW, HW	E	116 seconds x 20 m	B-04-105_010604_E1
B-04-108	AW, HW	B	20 m x 10 m	B-04-108_020604_B1
B-04-109	AW, HW	E	144 seconds x15 m	B-04-109_020604_E1
B-04-110	AW, HW	E	168 seconds x 75 m	B-04-110_020604_E1
B-04-113	AW, HW	B	20 m x 12 m	B-04-113_020604_B1
B-04-113	AW, HW	E	105 seconds x15 m	B-04-113_020604_E1
B-04-114	AW, HW	E	167 seconds x 75 m	B-04-114_030604_E1
B-04-121	AW, HW	E	421 seconds x 100 m	B-04-121_040604_E1
B-04-122	AW, HW	E	141 seconds x 40 m	B-04-122_040604_E1
B-04-123	AW, HW	E	306 seconds x 100 m	B-04-123_070604_E1
B-04-124	AW, HW	E	141 seconds x 40 m	B-04-124_070604_E1
B-04-125	AW, HW	B	7 m x 20 m	B-04-125_070604_B1
B-04-126	AW, HW	B	20 m x20 m	B-04-126_080604_B1
B-04-127	AW, HW	E	302 seconds x 80 m	B-04-127_080604_E1
B-04-129	AW, HW	E	261 seconds x 100 m	B-04-129_080604_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
B-04-131	AW, HW	E	144 seconds x15 m	B-04-131_090604_E1
B-04-133	AW, HW	E	143 seconds x 60 m	B-04-133_090604_E1
B-04-136	AW, HW	E	655 seconds x 150 m	B-04-136_100604_E1
B-04-140	AW, HW	E	246 seconds x 100 m	B-04-140_140604_E1
B-04-141	AW, HW	D	2 sweeps	B-04-141_140604_D1
B-04-144	AW, HW	E	277 seconds x 150 m	B-04-144_150604_E1
B-04-145	AW, HW	E	339 seconds x 110 m	B-04-145_150604_E1
B-04-147	AW, HW	O	Observed at impassable culvert	B-04-147_150604_O1
B-04-149	AW, HW	B	10 m x 15 m	B-04-149_150604_B1
B-04-149	AW, HW	E	318 seconds x 125 m	B-04-149_150604_E1
B-04-152	AW, HW	B	5 m x 8 m	B-04-152_160604_B1
B-04-153	AW, HW	E	312 seconds x 100 m	B-04-153_160604_E1
B-04-155	AW, HW	E	139 seconds x 50 m	B-04-155_160604_E1
B-04-161	AW, HW	B	10 m x 5 m	B-04-161_180604_B1
B-04-161	AW, HW	E	220 seconds x 15 m	B-04-161_180604_E1
B-04-163	AW, HW	E	50 m x 131 seconds	B-04-163_210604_E1
B-04-164	AW, HW	B	30 m x 20 m	B-04-164_210604_B1
B-04-165	AW, HW	E	139 seconds x100 m	B-04-165_210604_E1
B-04-167	AW, HW	B	30 m x 18 m	B-04-167_210604_B1
B-04-167	AW, HW	E	281 seconds x 150 m	B-04-167_210604_E1
B-04-174	AW, HW	E	432 seconds x 150 m	B-04-174_220604_E1
B-04-181	AW, HW	E	239 seconds x 100 m	B-04-181_280604_E1
B-04-186	AW, HW	E	674 seconds x 150 m	B-04-186_290604_E1
B-04-187	AW, HW	D	1 sweep	B-04-187_290604_D1
B-04-187	AW, HW	E	761 seconds x 150 m	B-04-187_290604_E1
B-04-188	AW, HW	E	650 seconds x 150 m	B-04-188_290604_E1
B-04-189	AW, HW	E	830 seconds x 175 m	B-04-189_300604_E1
B-04-190	AW, HW	D	4 sweeps	B-04-190_300604_D1
B-04-191	AW, HW	E	351 seconds x 90 m	B-04-191_050704_E1
B-04-195	AW, HW	B	10 m x15 m	B-04-195_060704_B1
B-04-195	AW, HW	D	2 sweeps	B-04-195_060704_D1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
B-04-196	AW, HW	E	530 seconds x 50 m	B-04-196_060704_E1
B-04-197	AW, HW	E	258 seconds x 75 m	B-04-197_060704_E1
B-04-198	AW, HW	E	593 seconds x 150 m	B-04-198_060704_E1
B-04-199	AW, HW	E	475 seconds x 150 m	B-04-199_060704_E1
B-04-200	AW, HW	E	234 seconds x 100 m	B-04-200_060704_E1
B-04-205	AW, HW	E	248 seconds x 100 m	B-04-205_070704_E1
B-04-211	AW, HW	E	119 seconds x 35 m	B-04-211_070704_E1
B-04-214	AW, HW	E	205 seconds x 80 m	B-04-214_070704_E1
B-04-215	AW, HW	E	202 seconds x 75 m	B-04-215_070704_E1
B-04-217	AW, HW	E	531 seconds x 100 m	B-04-217_080704_E1
B-04-218	AW, HW	E	153 seconds x 70 m	B-04-218_080704_E1
B-04-219	AW, HW	E	250 seconds x 80 m	B-04-219_080704_E1
B-04-220	AW, HW	E	229 seconds x 125 m	B-04-220_080704_E1
B-04-223	AW, HW	E	436 seconds x 80 m	B-04-223_090704_E1
B-04-224	AW, HW	E	264 seconds x 70 m	B-04-224_130704_E1
B-04-225	AW, HW	E	175 seconds x 70 m	B-04-225_130704_E1
B-04-226	AW, HW	B	12 m x10 m	B-04-226_130704_B1
B-04-228	AW, HW	E	314 seconds x 80 m	B-04-228_130704_E1
B-04-229	AW, HW	D	2 sweeps	B-04-229_140704_D1
B-04-230	AW, HW	E	290 seconds x 70 m	B-04-230_140704_E1
B-04-231	AW, HW	E	313 seconds x 60 m	B-04-231_140704_E1
B-04-232	AW, HW	E	201 seconds x 75 m	B-04-232_140704_E1
B-04-238	AW, HW	E	539 seconds x 100 m	B-04-238_140704_E1
B-04-240	AW, HW	E	248 seconds x 85 m	B-04-240_150704_E1
B-04-241	AW, HW	B	10 m x 10 m	B-04-241_190704_B1
B-04-241	AW, HW	E	299 seconds x 80 m	B-04-241_190704_E1
B-04-244	AW, HW	E	703 seconds x 115 m	B-04-244_200704_E1
B-04-248	AW, HW	B	8 m x 12 m	B-04-248_200704_B1
B-04-249	AW, HW	B	8 m x 10 m	B-04-249_200704_B1
B-04-250	AW, HW	B	6 m x 8 m	B-04-250_200704_B1
B-04-257	AW, HW	B	10 m x 30 m	B-04-257_210704_B1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
B-04-259	AW, HW	B	7 m x 6 m	B-04-259_210704_B1
B-04-263	AW, HW	B	7 x 15 m	B-04-263_220704_B1
B-04-264	AW, HW	B	10 m x15 m	B-04-264_220704_B1
B-04-266	AW, HW	E	214 seconds x 50 m	B-04-266_260704_E1
B-04-270	AW, HW	B	4 m x 10 m	B-04-270_040804_B1
B-04-270	AW, HW	E	100 seconds x10 m	B-04-270_040804_E1
B-04-272	AW, HW	O	Observed	B-04-272_040804_O1
B-04-275	AW, HW	B	10 m x 5 m	B-04-275_050804_B1
B-04-276	AW, HW	E	219 seconds x25 m	B-04-276_050804_E1
B-04-280	AW, HW	B	5 m x 10 m	B-04-280_050804_B1
B-04-286	AW, HW	O	Observed	B-04-286_060804_O1
B-04-287	AW, HW	O	Observed under bridge	B-04-287_060804_O1
D-04-011	DM, EW, NM	E	494 seconds x 75 m	D-04-011_020604_E1
D-04-012	DM, EW, NM	E	947 seconds x 75 m	D-04-012_020604_E1
D-04-013	DM	L	0.5 hr.	D-04-013_030604_L1
D-04-015	DM	L	20 hrs.	D-04-015_070604_L1
D-04-016	DM	L	0.5 hr.	D-04-016_080604_L1
D-04-017	DM, DC	E	174 seconds x 40 m	D-04-017_090604_E1
D-04-020	DM	L	0.5 hr.	D-04-020_100604_L1
D-04-021	DM	L	0.5 hr.	D-04-021_140604_L1
D-04-022	DM, MK	E	388 seconds x 75 m	D-04-022_150604_E1
D-04-023	DM, MK	E	566 seconds x 100 m	D-04-023_150604_E1
D-04-027	DM, MK	E	988 seconds x 100 m	D-04-027_150604_E1
D-04-028	DM, BT	E	679 seconds x 75 m	D-04-028_160604_E1
D-04-029	DM, BT	E	400 seconds x 50 m	D-04-029_160604_E1
D-04-033	DM, DC	E	686 seconds x 125 m	D-04-033_230604_E1
D-04-034	DM, DC	E	396 seconds x 50 m	D-04-034_230604_E1
D-04-035	DM, DC	E	612 seconds x 100 m	D-04-035_230604_E1
D-04-036	DM, JM, KK	E	620 seconds x 50 m	D-04-036_070704_E1
W-04-001	JT, JC	O	Observed spawning	W-04-001_030504_O1
W-04-004	JT, JC	O	Observed spawning	W-04-004_030504_O1

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Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-04-005	JT, JC	O	Observed stranded in pools	W-04-005_030504_O1
W-04-006	JT, JC	E	161 seconds x 50 m	W-04-006_030504_E1
W-04-007	JT, JC	O	Observed spawning	W-04-007_030504_O1
W-04-009	JT, JC	E	150 seconds x 30 m	W-04-009_040504_E1
W-04-013	JT, JC	B	6 m x 15 m	W-04-013_040504_B1
W-04-020	JT, JC	B	6 m x 10 m	W-04-020_050504_B1
W-04-027	JT, JC	E	108 seconds x 20 m	W-04-027_050504_E1
W-04-032	JT, JC	E	170 seconds x 50 m	W-04-032_060504_E1
W-04-036	JT, JC	E	100 seconds x 45 m	W-04-036_060504_E1
W-04-039	JT, JC	E	172 seconds x 50 m	W-04-039_100504_E1
W-04-040	JT, JC	E	117 seconds x 75 m	W-04-040_100504_E1
W-04-041	JT, JC	E	126 seconds x 30 m	W-04-041_110504_E1
W-04-043	JT, JC	E	537 seconds x50 m	W-04-043_110504_E1
W-04-044	JT, JC	E	569 seconds x 150 m	W-04-044_110504_E1
W-04-049	JT, JC	E	516 seconds x 150 m	W-04-049_110504_E1
W-04-049	JT, JC	K	1 m^2	W-04-049_110504_K1
W-04-050	JT, JC	E	264 seconds x 100 m	W-04-050_110504_E1
W-04-051	JT, JC	E	306 seconds x 150 m	W-04-051_120504_E1
W-04-052	JT, JC	E	366 seconds x 100 m	W-04-052_120504_E1
W-04-053	JT, JC	E	263 seconds x 100 m	W-04-053_180504_E1
W-04-054	JT, JC	E	303 seconds x 100 m	W-04-054_180504_E1
W-04-055	JT, JC	E	375 seconds x 150 m	W-04-055_180504_E1
W-04-056	JT, JC	E	151 seconds x 50 m	W-04-056_180504_E1
W-04-057	JT, JC	E	247 seconds x 75 m	W-04-057_180504_E1
W-04-058	JT, JC	E	86 seconds x 50 m	W-04-058_180504_E1
W-04-059	JT, JC	E	131 seconds x 75 m	W-04-059_200504_E1
W-04-060	JT, JC	E	345 seconds x 150 m	W-04-060_200504_E1
W-04-063	JT, JC	E	149 seconds x 50 m	W-04-063_200504_E1
W-04-069	JT, JC	E	147 seconds x 100 m	W-04-069_210504_E1
W-04-070	JT, JC	E	191 seconds x 100 m	W-04-070_210504_E1
W-04-071	JT, JC	E	102 seconds x 150 m	W-04-071_210504_E1

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Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-04-072	JT, JC	E	256 seconds x 150 m	W-04-072_250504_E1
W-04-074	JT, JC	E	401 seconds x 150 m	W-04-074_250504_E1
W-04-074	JT, JC	K	1 m^2	W-04-074_250504_K1
W-04-076	JT, JC	E	510 seconds x 150 m	W-04-076_250504_E1
W-04-077	JT, DM	E	283 seconds x 100 m	W-04-077_260504_E1
W-04-077	JT, DM	L	30 min.	W-04-077_260504_L1
W-04-078	JT, DM	E	426 seconds x 100 m	W-04-078_260504_E1
W-04-082	JT, DM	E	243 seconds x 100 m	W-04-082_260504_E1
W-04-082	JT, DM	L	30 min.	W-04-082_260504_L1
W-04-083	JT, DM	E	662 seconds x 150 m	W-04-083_270504_E1
W-04-083	JT, DM	K	1 m^2	W-04-083_270504_K1
W-04-083	JT, DM	L	60 min.	W-04-083_270504_L1
W-04-084	JT, DM	D	10 sweeps over 10 m	W-04-084_270504_D1
W-04-084	JT, DM	E	506 seconds x 100 m	W-04-084_270504_E1
W-04-085	JT, JC	B	50 m x 5 m	W-04-085_280504_B1
W-04-087	JT, JC	L	15 min.	W-04-087_280504_L1
W-04-088	JT, JC	E	243 seconds x 100 m	W-04-088_280504_E1
W-04-088	JT, JC	L	30 min.	W-04-088_280504_L1
W-04-090	JT, JC, MK	E	364 seconds x 100 m	W-04-090_010604_E1
W-04-090	JT, JC, MK	L	30 min.	W-04-090_010604_L1
W-04-092	JT, JC, MK	E	421 seconds x 100 m	W-04-092_010604_E1
W-04-092	JT, JC, MK	L	30 min.	W-04-092_010604_L1
W-04-093	JT, JC	E	443 seconds x 100 m	W-04-093_010604_E1
W-04-093	JT, JC	L	30 min.	W-04-093_010604_L1
W-04-094	JT, JC	E	245 seconds x 100 m	W-04-094_020604_E1
W-04-094	JT, JC	L	30 min.	W-04-094_020604_L1
W-04-095	JT, JC	E	467 seconds x 200 m	W-04-095_020604_E1
W-04-097	JT, JC	E	213 seconds x 50 m	W-04-097_020604_E1
W-04-102	JT, JC	E	465 seconds x 150 m	W-04-102_030604_E1
W-04-102	JT, JC	K	1 m^2	W-04-102_030604_K1
W-04-105	JT, JC	E	444 seconds x 100 m	W-04-105_030604_E1

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Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-04-106	JT, JC	E	294 seconds x 100 m	W-04-106_030604_E1
W-04-109	JT, JC	E	365 seconds x 100 m	W-04-109_040604_E1
W-04-109	JT, JC	K	1 m²	W-04-109_040604_K1
W-04-110	JT, JC	E	315 seconds x 100 m	W-04-110_040604_E1
W-04-111	JT, JC	E	306 seconds x 100 m	W-04-111_040604_E1
W-04-113	JT, JC	E	178 seconds x 40 m	W-04-113_050604_E1
W-04-114	JT, JC	E	247 seconds x 75 m	W-04-114_050604_E1
W-04-115	JT, JC	E	310 seconds x 100 m	W-04-115_050604_E1
W-04-116	JT, JC	E	228 seconds x 150 m	W-04-116_050604_E1
W-04-119	JT, JC	E	288 seconds x 100 m	W-04-119_080604_E1
W-04-120	JT, JC	E	410 seconds x 150 m	W-04-120_080604_E1
W-04-121	JT, JC	E	244 seconds x 75 m	W-04-121_080604_E1
W-04-124	JT, JC	E	154 seconds x 75 m	W-04-124_080604_E1
W-04-126	JT, JC	E	388 seconds x 100 m	W-04-126_090604_E1
W-04-129	JT, JC	E	293 seconds x 100 m	W-04-129_090604_E1
W-04-132	JT, JC	E	386 seconds x 100 m	W-04-132_090604_E1
W-04-135	JT, JC	E	376 seconds x 100 m	W-04-135_090604_E1
W-04-137	JT, JC	E	186 seconds x 50 m	W-04-137_100604_E1
W-04-149	JT, JC	B	5 m x 20 m	W-04-149_140604_B1
W-04-151	JT, JC	E	629 seconds x 150 m	W-04-151_140604_E1
W-04-153	JT, JC	E	527 seconds x 75 m	W-04-153_150604_E1
W-04-157	JT, JC	E	267 seconds x 50 m	W-04-157_160604_E1
W-04-159	JT, JC	E	252 seconds x 150 m	W-04-159_160604_E1
W-04-166	JT, JC	E	244 seconds x 100 m	W-04-166_170604_E1
W-04-167	JT, JC	E	143 seconds x 50 m	W-04-167_170604_E1
W-04-171	JT, JC	E	274 seconds x 100 m	W-04-171_170604_E1
W-04-172	JT, JC	E	616 seconds x 150 m	W-04-172_170604_E1
W-04-173	JT, JC	E	308 seconds x 100 m	W-04-173_180604_E1
W-04-174	JT, JC	E	419 seconds x 75 m	W-04-174_180604_E1
W-04-175	JT, JC	E	447 seconds x 100 m	W-04-175_210604_E1
W-04-176	JT, JC	E	228 seconds x 100 m	W-04-176_210604_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-04-177	JT, JC	E	423 seconds x 75 m	W-04-177_210604_E1
W-04-178	JT, JC	E	96 seconds x 50 m	W-04-178_210604_E1
W-04-179	JT, JC	E	148 seconds x 50 m	W-04-179_220604_E1
W-04-180	JT, JC	B	6 m x 20 m	W-04-180_220604_B1
W-04-181	JT, JC	E	308 seconds x 75 m	W-04-181_220604_E1
W-04-182	JT, JC	E	242 seconds x 120 m	W-04-182_220604_E1
W-04-184	JT, JC	E	232 seconds x 75 m	W-04-184_220604_E1
W-04-186	JT, JC	E	312 seconds x 75 m	W-04-186_230604_E1
W-04-187	JT, JC	E	175 seconds x 100 m	W-04-187_230604_E1
W-04-192	JT, JC	E	361 seconds x 100 m	W-04-192_240604_E1
W-04-193	JT, JC	E	242 seconds x 100 m	W-04-193_240604_E1
W-04-195	JT, JC	E	482 seconds x 150 m	W-04-195_250604_E1
W-04-197	JT, JC	E	407 seconds x 200 m	W-04-197_250604_E1
W-04-200	JT, JC	E	275 seconds x 100 m	W-04-200_290604_E1
W-04-202	JT, JC	B	30 m x 20 m	W-04-202_290604_B1
W-04-203	JT, JC	E	243 seconds x 50 m	W-04-203_290604_E1
W-04-207	JT, JC	E	370 seconds x 100 m	W-04-207_050704_E1
W-04-208	JT, JC	E	463 seconds x 100 m	W-04-208_050704_E1
W-04-208	JT, JC	K	1 m^2	W-04-208_050704_K1
W-04-211	JT, JC	E	488 seconds x 150 m	W-04-211_050704_E1
W-04-212	JT, JC	E	334 seconds x 150 m	W-04-212_060704_E1
W-04-213	JT, JC	E	249 seconds x 100 m	W-04-213_060704_E1
W-04-216	JT, JC	E	247 seconds x 100 m	W-04-216_060704_E1
W-04-217	JT, JC	E	517 seconds x 150 m	W-04-217_060704_E1
W-04-218	JT, JC	E	535 seconds x 150 m	W-04-218_060704_E1
W-04-225	JT, JC	E	467 seconds x 100 m	W-04-225_070704_E1
W-04-231	JT, JC	E	575 seconds x 150 m	W-04-231_080704_E1
W-04-231	JT, JC	K	1 m^2	W-04-231_080704_K1
W-04-232	JT, JC	E	327 seconds x 100 m	W-04-232_080704_E1
W-04-233	JT, JC	E	327 seconds x 100 m	W-04-233_130704_E1
W-04-234	JT, JC	E	468 seconds x 150 m	W-04-234_130704_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-04-235	JT, JC	K	1 m²	W-04-235_130704_K1
W-04-237	JT, JC	E	202 seconds x 75 m	W-04-237_130704_E1
W-04-238	JT, JC	E	232 seconds x 100 m	W-04-238_130704_E1
W-04-239	JT, JC	E	288 seconds x 75 m	W-04-239_130704_E1
W-04-244	JT, JC	O	Observed	W-04-244_140704_O1
W-04-245	JT, JC	O	Observed	W-04-245_140704_O1
W-04-246	JT, JC	O	Observed	W-04-246_140704_O1
W-04-249	JT, JC	E	199 seconds x 150 m	W-04-249_140704_E1
W-04-250	JT, JC	E	237 seconds x 100 m	W-04-250_140704_E1
W-04-250	JT, JC	K	1 m²	W-04-250_140704_K1
W-04-252	JT, JC	E	246 seconds x 75 m	W-04-252_150704_E1
W-04-253	JT, JC	E	349 seconds x 100 m	W-04-253_150704_E1
W-04-254	JT, JC	E	291 seconds x 150 m	W-04-254_150704_E1
W-04-254	JT, JC	K	1 m²	W-04-254_150704_K1
W-04-255	JT, JC	E	311 seconds x 75 m	W-04-255_150704_E1
W-04-256	JT, JC	E	328 seconds x 75 m	W-04-256_200704_E1
W-04-260	JT, JC	E	324 seconds x 100 m	W-04-260_210704_E1
W-04-262	JT, JC	E	233 seconds x 100 m	W-04-262_220704_E1
W-04-264	JT, JC	E	375 seconds x 100 m	W-04-264_220704_E1
W-04-265	JT, JC	E	184 seconds x 100 m	W-04-265_220704_E1
W-04-266	JT, JC	E	582 seconds x 150 m	W-04-266_220704_E1
W-04-266	JT, JC	K	1 m²	W-04-266_220704_K1
W-04-269	JT, JC	E	173 seconds x 50 m	W-04-269_220704_E1
W-04-271	JT, JC	B	11 m x 20 m	W-04-271_230704_B1
W-04-274	JT, JC	E	388 seconds x 100 m	W-04-274_230704_E1
W-04-277	JT, JC	E	222 seconds x 45 m	W-04-277_030804_E1
W-04-286	JT, JC	E	78 seconds x 25 m	W-04-286_030804_E1
W-04-287	JT, JC	E	701 seconds x 150 m	W-04-287_030804_E1
W-04-289	JT, JC	E	322 seconds x 100 m	W-04-289_040804_E1
W-04-297	JT, JC	E	153 seconds x 100 m	W-04-297_050804_E1
W-04-298	JT, JC	E	99 seconds x 100 m	W-04-298_050804_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-04-299	JT, JC	E	198 seconds x 100 m	W-04-299_050804_E1
X-04-001	JE, AP, HW	B	30 x 15 m and 25 x 10 m	X-04-001_050504_B1
X-04-002	JE, AP, HW	B	40 m x 18 m	X-04-002_050504_B1
X-04-005	JE, AP, HW	E	711 seconds x 25 m	X-04-005_050504_E1
X-04-014	JE, AP	B	20 x 4 m	X-04-014_060504_B1
X-04-023	JE, AP	B	25 x 4 m	X-04-023_100504_B1
X-04-026	JE, AP	B	55 x 5 m	X-04-026_100504_B1
X-04-031	JE, AP	B	35 x 4.5 m	X-04-031_100504_B1
X-04-031	JE, AP	E	491 seconds x 45 m	X-04-031_100504_E1
X-04-037	JE, AP	E	842 seconds x 100 m	X-04-037_140504_E1
X-04-041	JE, AP	B	15 x 2.5 m	X-04-041_140504_B1
X-04-041	JE, AP	L	10 min.	X-04-041_140504_L1
X-04-042	JE, AP	D	10 m²	X-04-042_140504_D1
X-04-043	JE, AP, HW, DM	K	7 m²	X-04-043_170504_K1
X-04-044	JE, AP	E	247 seconds x 30 m	X-04-044_170504_E1
X-04-046	JE, AP	E	186 seconds x 15 m	X-04-046_170504_E1
X-04-048	JE, AP, HW, DM	B	25 x 15 m	X-04-048_180504_B1
X-04-048	JE, AP, HW, DM	E	161 seconds x 20 m	X-04-048_180504_E1
X-04-049	JE, AP	E	305 seconds x 20 m	X-04-049_180504_E1
X-04-051	JE, AP	E	418 seconds x 30 m	X-04-051_180504_E1
X-04-052	JE, AP	B	20 x 7 m	X-04-052_190504_B1
X-04-053	JE, AP	E	202 seconds x 25 m	X-04-053_200504_E1
X-04-054	JE, AP	E	366 seconds x 35 m	X-04-054_200504_E1
X-04-055	JE, AP	O	Observed spawning	X-04-055_200504_O1
X-04-056	JE, AP	O	Observed spawning	X-04-056_200504_O1
X-04-057	JE, AP	O	Observed spawning	X-04-057_200504_O1
X-04-058	JE, AP	O	Observed spawning	X-04-058_200504_O1
X-04-061	JE, AP	E	160 seconds x 15 m	X-04-061_200504_E1
X-04-065	JE, AP	E	893 seconds x 150 m	X-04-065_210504_E1
X-04-066	JE, AP	E	470 seconds x 50 m	X-04-066_210504_E1
X-04-067	JE, AP	E	229 seconds x 8 m	X-04-067_250504_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-04-068	JE, AP	E	81 seconds x 5 m	X-04-068_250504_E1
X-04-069	JE, AP	K	3 m²	X-04-069_250504_K1
X-04-071	JE, AP	E	132 seconds x 12 m	X-04-071_250504_E1
X-04-072	JE, AP	O	Observed	X-04-072_250504_O1
X-04-074	JE, AP	E	251 seconds x 75 m	X-04-074_260504_E1
X-04-077	JE, AP	E	332 seconds x 65 m	X-04-077_260504_E1
X-04-078	JE, AP	E	298 seconds x 15 m	X-04-078_260504_E1
X-04-080	JE, AP	E	428 seconds x 30 m	X-04-080_260504_E1
X-04-081	JE, AP	E	262 seconds x 20 m	X-04-081_270504_E1
X-04-082	JE, AP	B	3 m x 18 m	X-04-082_270504_B1
X-04-084	JE, AP	E	274 seconds x 30 m	X-04-084_270504_E1
X-04-088	JE, AP	L	20 min.	X-04-088_270504_L1
X-04-090	JE, AP	E	201 seconds x 20 m	X-04-090_270504_E1
X-04-091	JE, AP	E	307 seconds x 50 m	X-04-091_280504_E1
X-04-091	JE, AP	L	2 min.	X-04-091_280504_L1
X-04-092	JE, AP	E	410 seconds x 75 m	X-04-092_280504_E1
X-04-094	JE, AP	E	305 seconds x 25 m	X-04-094_280504_E1
X-04-095	JE, AP	E	320 seconds x 40 m	X-04-095_010604_E1
X-04-097	JE, AP	E	293 seconds x 100 m	X-04-097_010604_E1
X-04-098	JE, AP	B	4 m x 35 m	X-04-098_010604_B1
X-04-099	JE, AP	E	372 seconds x 20 m	X-04-099_010604_E1
X-04-101	JE, AP	E	305 seconds x 15 m	X-04-101_010604_E1
X-04-102	JE, AP	E	447 seconds x 100 m	X-04-102_020604_E1
X-04-103	JE, AP	E	66 seconds x 7 m	X-04-103_020604_E1
X-04-103	JE, AP	K	3 m²	X-04-103_020604_K1
X-04-104	JE, AP	O	Observed	X-04-104_020604_O1
X-04-105	JE, AP	O	Observed upstream of culvert	X-04-105_020604_O1
X-04-106	JE, AP	E	575 seconds x 80 m	X-04-106_030604_E1
X-04-107	JE, AP	B	3 m x 25 m	X-04-107_030604_B1
X-04-107	JE, AP	E	640 seconds x 80 m	X-04-107_030604_E1
X-04-107	JE, AP	O	Observed crossing ford	X-04-107_030604_O1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-04-109	JE, AP	E	177 seconds x 20 m	X-04-109_030604_E1
X-04-110	JE, AP	E	872 seconds x 80 m	X-04-110_040604_E1
X-04-112	JE, AP	E	618 seconds x 30 m	X-04-112_040604_E1
X-04-113	JE, AP	E	250 seconds x 20 m	X-04-113_070604_E1
X-04-114	JE, AP	E	250 seconds x 20 m	X-04-114_070604_E1
X-04-114	JE, AP	K	2 m^2	X-04-114_070604_K1
X-04-115	JE, AP	E	692 seconds x 80 m	X-04-115_070604_E1
X-04-116	JE, AP	E	428 seconds x 20 m	X-04-116_080604_E1
X-04-116	JE, AP	L	45 min.	X-04-116_080604_L1
X-04-118	JE, AP	E	773 seconds x 130 m	X-04-118_080604_E1
X-04-118	JE, AP	L	45 min.	X-04-118_080604_L1
X-04-119	JE, AP	E	419 seconds x 25 m	X-04-119_080604_E1
X-04-120	JE, AP	E	281 seconds x 30 m	X-04-120_080604_E1
X-04-121	JE, AP	E	727 seconds x 60 m	X-04-121_080604_E1
X-04-122	JE, AP	E	701 seconds x 100 m	X-04-122_090604_E1
X-04-123	JE, AP	E	277 seconds x 15 m	X-04-123_090604_E1
X-04-124	JE, AP	E	328 seconds x 30 m	X-04-124_090604_E1
X-04-126	JE, AP	E	596 seconds x 70 m	X-04-126_100604_E1
X-04-127	JE, AP	E	757 seconds x 40 m	X-04-127_100604_E1
X-04-128	JE, AP	E	512 seconds x 40 m	X-04-128_140604_E1
X-04-129	JE, AP	E	1125 seconds x 120 m	X-04-129_140604_E1
X-04-130	JE, AP	E	253 seconds x 40 m	X-04-130_140604_E1
X-04-132	JE, AP	E	618 seconds x 80 m	X-04-132_140604_E1
X-04-133	JE, AP	E	597 seconds x 100 m	X-04-133_150604_E1
X-04-137	JE, AP	E	750 seconds x 60 m	X-04-137_160604_E1
X-04-137	JE, AP	L	60 min.	X-04-137_160604_L1
X-04-138	JE, AP	E	317 seconds x 15 m	X-04-138_160604_E1
X-04-139	JE, AP	E	354 seconds x 50 m	X-04-139_160604_E1
X-04-141	JE, AP, DM	E	676 seconds x 120 m	X-04-141_170604_E1
X-04-142	JE, AP	E	542 seconds x 100 m	X-04-142_170604_E1
X-04-145	JE, AP	E	493 seconds x 40 m	X-04-145_170604_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-04-147	JE, AP	E	436 seconds x 90 m	X-04-147_180604_E1
X-04-149	JE, AP	E	1132 seconds x 110 m	X-04-149_210604_E1
X-04-149	JE, AP	L	60 min.	X-04-149_210604_L1
X-04-150	JE, AP	E	672 seconds x 85 m	X-04-150_210604_E1
X-04-151	JE, AP	E	688 seconds x 65 m	X-04-151_210604_E1
X-04-152	JE, AP	B	6.5 m x 8 m	X-04-152_220604_B1
X-04-153	JE, AP	E	571 seconds x 25 m	X-04-153_220604_E1
X-04-154	JE, AP	E	581 seconds x 70 m	X-04-154_220604_E1
X-04-155	JE, AP	E	771 seconds x 70 m	X-04-155_230604_E1
X-04-156	JE, AP	E	396 seconds x 50 m	X-04-156_230604_E1
X-04-157	JE, AP	E	559 seconds x 70 m	X-04-157_230604_E1
X-04-159	JE, AP	E	65 seconds x 8 m	X-04-159_230604_E1
X-04-160	JE, AP	E	242 seconds x 25 m	X-04-160_240604_E1
X-04-161	JE, AP	E	435 seconds x 100 m	X-04-161_240604_E1
X-04-162	JE, AP	E	604 seconds x 35 m	X-04-162_240604_E1
X-04-163	JE, AP	E	427 seconds x 50	X-04-163_250604_E1
X-04-164	JE, AP	E	907 seconds x 90 m	X-04-164_250604_E1
X-04-165	JE, AP	D	1 m²	X-04-165_280604_D1
X-04-167	JE, AP	E	232 seconds x 40 m	X-04-167_280604_E1
X-04-168	JE, AP	E	452 seconds x 70 m	X-04-168_280604_E1
X-04-169	JE, AP	E	459 seconds x 75 m	X-04-169_280604_E1
X-04-170	JE, AP	E	495 seconds x 80 m	X-04-170_290604_E1
X-04-171	JE, AP	E	779 seconds x 70 m	X-04-171_290604_E1
X-04-172	JE, AP	E	257 seconds x 45 m	X-04-172_290604_E1
X-04-175	JE, AP	E	296 seconds x 60 m	X-04-175_290604_E1
X-04-176	JE, AP	E	240 seconds x 18 m	X-04-176_300604_E1
X-04-177	JE, AP	E	331 seconds x 25 m	X-04-177_300604_E1
X-04-178	JE, AP	E	347 seconds x 30 m	X-04-178_010704_E1
X-04-179	JE, AP	E	222 seconds x 10 m	X-04-179_010704_E1
X-04-180	JE, AP	D	2 m²	X-04-180_020704_D1
X-04-181	JE, AP	E	989 seconds x 120 m	X-04-181_020704_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-04-182	JE, AP	E	482 seconds x 30 m	X-04-182_050704_E1
X-04-184	JE, AP	E	234 seconds x 20 m	X-04-184_050704_E1
X-04-185	JE, AP	E	401 seconds x 35 m	X-04-185_050704_E1
X-04-186	JE, AP	E	407 seconds x 30 m	X-04-186_050704_E1
X-04-187	JE, AP	E	389 seconds x 17 m	X-04-187_060704_E1
X-04-188	JE, AP	D	1 m²	X-04-188_060704_D1
X-04-190	JE, AP	B	7 m x 18 m	X-04-190_060704_B1
X-04-192	JE, AP	E	800 seconds x 35 m	X-04-192_060704_E1
X-04-194	JE, AP	B	12 m x 15 m	X-04-194_070704_B1
X-04-194	JE, AP	E	359 seconds x 12 m	X-04-194_070704_E1
X-04-195	JE, AP	E	458 seconds x 50 m	X-04-195_070704_E1
X-04-196	JE, AP	E	275 seconds x 35 m	X-04-196_070704_E1
X-04-198	JE, AP	E	445 seconds x 30 m	X-04-198_070704_E1
X-04-199	JE, AP	E	485 seconds x 50 m	X-04-199_080704_E1
X-04-200	JE, AP	E	273 seconds x 15 m	X-04-200_080704_E1
X-04-201	JE, AP	E	341 seconds x 60 m	X-04-201_080704_E1
X-04-202	JE, AP	E	239 seconds x 25 m	X-04-202_080704_E1
X-04-203	JE, AP	E	658 seconds x 40 m	X-04-203_130704_E1
X-04-204	JE, AP	E	435 seconds x 80 m	X-04-204_130704_E1
X-04-205	JE, AP	E	425 seconds x 80 m	X-04-205_130704_E1
X-04-206	JE, AP	E	886 seconds x 100 m	X-04-206_130704_E1
X-04-207	JE, AP	E	305 seconds x 25 m	X-04-207_130704_E1
X-04-208	JE, AP	E	781 seconds x 90 m	X-04-208_140704_E1
X-04-209	JE, AP	E	491 seconds x 35 m	X-04-209_140704_E1
X-04-210	JE, AP	E	663 seconds x 70 m	X-04-210_140704_E1
X-04-211	JE, AP	D	1 m²	X-04-211_140704_D1
X-04-212	JE, AP	E	324 seconds x 40 m	X-04-212_150704_E1
X-04-213	JE, AP	E	494 seconds x 100 m	X-04-213_150704_E1
X-04-215	JE, AP	E	1241 seconds x 180 m	X-04-215_150704_E1
X-04-215	JE, AP	O	Observed	X-04-215_150704_O1
X-04-216	JE, AP	E	499 seconds x 75 m	X-04-216_160704_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-04-217	JE, AP	E	186 seconds x 20 m	X-04-217_160704_E1
X-04-221	JE, AP	E	558 seconds x 35 m	X-04-221_160704_E1
X-04-222	JE AP	E	1360 seconds x 160 m	X-04-222_190704_E1
X-04-223	JE, AP	E	457 seconds x 90 m	X-04-223_200704_E1
X-04-225	JE, AP	E	490 seconds x 85 m	X-04-225_200704_E1
X-04-226	JE, AP	E	485 seconds x 75 m	X-04-226_200704_E1
X-04-228	JE, AP	E	467 seconds x 50 m	X-04-228_210704_E1
X-04-230	JE, AP	D	3 m^2	X-04-230_210704_D1
X-04-232	JE, AP	E	267 seconds x 25 m	X-04-232_220704_E1
X-04-235	JE, AP	D	2 m^2	X-04-235_220704_D1
X-04-238	JE, AP	E	406 seconds x 100 m	X-04-238_220704_E1
X-04-239	JE, AP	E	833 seconds x 85 m	X-04-239_220704_E1
X-04-245	JE, AP	E	333 seconds x 50 m	X-04-245_260704_E1
X-04-248	JE, AP	E	268 seconds x 15 m	X-04-248_280704_E1
X-04-249	JE, AP	E	239 seconds x 75 m	X-04-249_280704_E1
X-04-251	JE, AP	E	305 seconds x 45 m	X-04-251_280704_E1
X-04-253	JE, AP	E	415 seconds x 55 m	X-04-253_300704_E1
X-04-255	JE, AP	E	673 seconds x 100 m	X-04-255_300704_E1
X-04-256	JE, AP	E	661 seconds x 40 m	X-04-256_030804_E1
X-04-257	JE, AP	E	716 seconds x 60 m	X-04-257_030804_E1
X-04-258	JE, AP, DM	E	1136 seconds x 120 m	X-04-258_040804_E1
X-04-259	JE, AP, DM	E	1407 seconds x 200 m	X-04-259_050804_E1
X-04-260	JE, AP, DM	E	783 seconds x 125 m	X-04-260_050804_E1
X-04-262	JE, AP	E	827 seconds x 80 m	X-04-262_060804_E1
D-05-004	DM	O	Observed, pre-spawn	D-05-004_140405_O1
D-05-007	DM	O	Observed, pre-spawn	D-05-007_140405_O1
D-05-008	DM	O	Observed, pre-spawn	D-05-008_140405_O1
D-05-009	DM	O	Observed, pre-spawn	D-05-009_140405_O1
D-05-010	DM	L	0.6 hour (40 min.)	D-05-010_010505_L1
D-05-011	DM, DW, ML	O	Observed	D-05-011_010605_O1
D-05-011	DM, DW, ML	Z	1303 seconds	D-05-011_010605_Z1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
D-05-012	DM, TS	B	15 m x 50 m	D-05-012_090605_B1
D-05-013	DM, AP	E	494 seconds x 40 m	D-05-013_200705_E1
D-05-014	DM, AP	B	5 m x 50 m	D-05-014_200705_B1
D-05-015	DM, AP	B	5 m x 15 m	D-05-015_200705_B1
D-05-015	DM, AP	E	535 seconds x 80 m	D-05-015_200705_E1
D-05-017	DM, AP	D	5 sweeps	D-05-017_210705_D1
D-05-018	DM, JM, KK, KC	E	501 seconds x 50 m	D-05-018_030805_E1
D-05-019	DM, JM, KK, KC	E	456 seconds x 50 m	D-05-019_030805_E1
D-05-020	DM, JM, KK, KC	E	585 seconds x 75 m	D-05-020_040805_E1
D-05-021	DM, JM, KK, KC	D	1 sweep through scour pool	D-05-021_040805_D1
D-05-023	DM, JC	E	442 seconds x 60 m	D-05-023_160805_E1
D-05-025	DM, RJ	E	700 seconds x 110 m	D-05-025_170805_E1
D-05-026	DM, JM	E	508 seconds x 40 m	D-05-026_300805_E1
D-05-027	DM, JM	E	292 seconds x 20 m	D-05-027_300805_E1
W-05-001	JC, VK, AP, AW	E	398 seconds x 145 m	W-05-001_020505_E1
W-05-001	JC, VK, AP, AW	K	1 m²	W-05-001_020505_K1
W-05-001	JC, VK, AP, AW	O	Observation	W-05-001_020505_O1
W-05-002	JC, VK, AP, AW	E	405 seconds x 75 m	W-05-002_020505_E1
W-05-009	JC, VK, AP, AW	E	564 seconds x 100 m	W-05-009_020505_E1
W-05-012	JC, VK, DM	E	375 seconds x 30 m	W-05-012_030505_E1
W-05-013	JC, VK, DM	E	822 seconds x 125 m	W-05-013_030505_E1
W-05-014	JC, VK, DM	E	412 seconds x 125 m	W-05-014_030505_E1
W-05-016	JC, VK	E	145 seconds x 80 m	W-05-016_030505_E1
W-05-016	JC, VK	O	Observed in deep pool	W-05-016_030505_O1
W-05-017	JC, VK	E	403 seconds x 65 m	W-05-017_040505_E1
W-05-019	JC, VK	E	320 seconds x 100 m	W-05-019_040505_E1
W-05-020	JC, VK	E	422 seconds x 60 m	W-05-020_040505_E1
W-05-023	JC, VK	E	293 seconds x 60 m	W-05-023_050505_E1
W-05-024	JC, VK	E	398 seconds x 60 m	W-05-024_050505_E1
W-05-024	JC, VK	O	Observed	W-05-024_050505_O1
W-05-027	JC, VK	E	300 seconds x 80 m	W-05-027_050505_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-05-028	JC, VK	E	272 seconds x 70 m	W-05-028_050505_E1
W-05-030	JC, VK	E	183 seconds x 30 m	W-05-030_050505_E1
W-05-034	JC, VK	E	363 seconds x 70 m	W-05-034_060505_E1
W-05-034	JC, VK	O	Observed	W-05-034_060505_O1
W-05-036	JC, VK	E	291 seconds x 70 m	W-05-036_090505_E1
W-05-037	JC, VK	E	248 seconds x 60 m	W-05-037_090505_E1
W-05-038	JC, VK	E	187 seconds x 70 m	W-05-038_090505_E1
W-05-041	JC, VK	E	512 seconds x 90 m	W-05-041_100505_E1
W-05-043	JC, VK	E	302 seconds x 100 m	W-05-043_100505_E1
W-05-045	JC, VK	E	198 seconds x 60 m	W-05-045_100505_E1
W-05-047	JC, VK	E	193 seconds x 60 m	W-05-047_110505_E1
W-05-048	JC, VK	E	192 seconds x 60 m	W-05-048_110505_E1
W-05-049	JC, VK	E	357 seconds x 75 m	W-05-049_110505_E1
W-05-050	JC, VK	E	395 seconds x 70 m	W-05-050_110505_E1
W-05-051	JC, VK	E	346 seconds x 60 m	W-05-051_120505_E1
W-05-052	JC, VK	E	397 seconds x 70 m	W-05-052_120505_E1
W-05-053	JC, VK	E	438 seconds x 80 m	W-05-053_120505_E1
W-05-054	JC, VK	E	222 seconds x 60 m	W-05-054_120505_E1
W-05-055	JC, VK	E	720 seconds x 200 m	W-05-055_160505_E1
W-05-055	JC, VK	L	1hr	W-05-055_160505_L1
W-05-056	JC, VK	E	806 seconds x 200 m	W-05-056_160505_E1
W-05-057	JC, VK	E	473 seconds x 100 m	W-05-057_170505_E1
W-05-058	JC, VK	E	317 seconds x 75 m	W-05-058_170505_E1
W-05-058	JC, VK	K	1 m^2	W-05-058_170505_K1
W-05-059	JC, VK	E	334 seconds x 40 m	W-05-059_170505_E1
W-05-060	JC, VK	E	245 seconds x 30 m	W-05-060_170505_E1
W-05-062	JC, VK	B	3.5 m x 6 m	W-05-062_180505_B1
W-05-063	JC, VK	E	273 seconds x 20 m	W-05-063_180505_E1
W-05-065	JC, VK	E	377 seconds x 70 m	W-05-065_180505_E1
W-05-066	JC, VK	E	247 seconds x 40 m	W-05-066_180505_E1
W-05-069	JC, VK	E	150 seconds x 30 m	W-05-069_190505_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-05-071	JC, VK	E	323 seconds x 120 m	W-05-071_200505_E1
W-05-072	JC, VK	E	273 seconds x 80 m	W-05-072_200505_E1
W-05-073	JC, VK	E	327 seconds x 80 m	W-05-073_240505_E1
W-05-076	JC, VK	E	700 seconds x 50 m	W-05-076_240505_E1
W-05-077	JC, VK	D	10 sweeps	W-05-077_240505_D1
W-05-077	JC, VK	E	335 seconds x 100 m	W-05-077_240505_E1
W-05-078	JC, VK	B	5 m x 7 m	W-05-078_250505_B1
W-05-079	JC, VK	E	442 seconds x 100 m	W-05-079_250505_E1
W-05-081	JC, VK	E	490 seconds x 100 m	W-05-081_250505_E1
W-05-082	JC, VK	E	245 seconds x 80 m	W-05-082_250505_E1
W-05-083	JC, VK	E	526 seconds x 100 m	W-05-083_260505_E1
W-05-085	JC, VK	E	482 seconds x 130 m	W-05-085_260505_E1
W-05-086	JC, VK	E	187 seconds x 50 m	W-05-086_260505_E1
W-05-087	JC, VK	E	230 seconds x 70 m	W-05-087_260505_E1
W-05-093	JC, VK	E	289 seconds x 80 m	W-05-093_290505_E1
W-05-094	JC, VK	E	394 seconds x 80 m	W-05-094_310505_E1
W-05-096	JC, VK	E	174 seconds x 45 m	W-05-096_310505_E1
W-05-099	JC, VK	E	243 seconds x 80 m	W-05-099_310505_E1
W-05-101	JC, VK	E	150 seconds x 30 m	W-05-101_010605_E1
W-05-102	JC, VK	E	1053 seconds x 275 m	W-05-102_010605_E1
W-05-103	JC, VK	E	447 seconds x 125 m	W-05-103_010605_E1
W-05-104	JC, VK	E	953 seconds x 230 m	W-05-104_010605_E1
W-05-105	JC, VK	E	603 seconds x 100 m	W-05-105_010605_E1
W-05-106	JC, VK	E	284 seconds x 80 m	W-05-106_020605_E1
W-05-110	JC, VK	E	414 seconds x 80 m	W-05-110_040605_E1
W-05-112	JC, VK	E	565 seconds x 100 m	W-05-112_040605_E1
W-05-113	JC, VK	E	539 seconds x 110 m	W-05-113_060605_E1
W-05-114	JC, VK	E	189 seconds x 50 m	W-05-114_060605_E1
W-05-115	JC, VK	E	384 seconds x 100 m	W-05-115_070605_E1
W-05-116	JC, VK	E	424 seconds x 100 m	W-05-116_070605_E1
W-05-117	JC, VK	E	494 seconds x 120 m	W-05-117_070605_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-05-118	JC, VK	E	393 seconds x 100 m	W-05-118_080605_E1
W-05-119	JC, VK	E	384 seconds x 100 m	W-05-119_080605_E1
W-05-120	JC, VK	E	174 seconds x 80 m	W-05-120_090605_E1
W-05-121	JC, VK	E	150 seconds x 30 m	W-05-121_090605_E1
W-05-122	JC, VK	E	384 seconds x 130 m	W-05-122_090605_E1
W-05-126	JC, VK	E	228 seconds x 50 m	W-05-126_140605_E1
W-05-128	JC, VK	E	150 seconds x 30 m	W-05-128_140605_E1
W-05-129	JC, VK	E	150 seconds x 30 m	W-05-129_150605_E1
W-05-130	JC, VK	E	150 seconds x 30 m	W-05-130_150605_E1
W-05-130	JC, VK	O	Observed	W-05-130_150605_O1
W-05-131	JC, VK	E	494 seconds x 120 m	W-05-131_150605_E1
W-05-132	JC, VK	E	369 seconds x 100 m	W-05-132_150605_E1
W-05-134	JC, VK	E	271 seconds x 100 m	W-05-134_150605_E1
W-05-135	JC, VK	O	Observed	W-05-135_160605_O1
W-05-136	JC, VK	E	95 seconds x 12 m	W-05-136_160605_E1
W-05-137	JC, VK	E	95 seconds x 20 m	W-05-137_160605_E1
W-05-138	JC, VK	E	103 seconds x 25 m	W-05-138_160605_E1
W-05-139	JC, VK	E	376 seconds x 85 m	W-05-139_170605_E1
W-05-140	JC, VK	E	213 seconds x 80 m	W-05-140_170605_E1
W-05-141	JC, VK	E	223 seconds x 100 m	W-05-141_200605_E1
W-05-145	JC, VK	E	159 seconds x 40 m	W-05-145_200605_E1
W-05-146	JC, VK	E	257 seconds x 100 m	W-05-146_210605_E1
W-05-148	JC, VK	E	294 seconds x 75 m	W-05-148_210605_E1
W-05-149	JC, VK	E	376 seconds x 150 m	W-05-149_220605_E1
W-05-150	JC, VK	E	324 seconds x 110 m	W-05-150_220605_E1
W-05-151	JC, VK	E	293 seconds x 200 m	W-05-151_220605_E1
W-05-152	JC, VK	E	449 seconds x 200 m	W-05-152_220605_E1
W-05-154	JC, VK	E	219 seconds x 50 m	W-05-154_220605_E1
W-05-157	JC, VK	E	261 seconds x 100 m	W-05-157_230605_E1
W-05-159	JC, VK	E	254 seconds x 45 m	W-05-159_230605_E1
W-05-160	JC, VK	E	258 seconds x 50 m	W-05-160_230605_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-05-161	JC, VK	E	235 seconds x 80 m	W-05-161_230605_E1
W-05-162	JC, VK	E	219 seconds x 100 m	W-05-162_230605_E1
W-05-163	JC, VK	E	261 seconds x 100 m	W-05-163_240605_E1
W-05-164	JC, VK	E	569 seconds x 200 m	W-05-164_270605_E1
W-05-165	JC, VK	E	381 seconds x 150 m	W-05-165_270605_E1
W-05-166	JC, VK	E	129 seconds x 30 m	W-05-166_270605_E1
W-05-167	JC, VK	E	591 seconds x 110 m	W-05-167_280605_E1
W-05-168	VK, LT, DM	E	335 seconds x 40 m	W-05-168_110705_E1
W-05-169	VK, LT, AW, AP, DM	E	667 seconds x 100 m	W-05-169_120705_E1
W-05-170	VK, LT, AW, AP, DM	D	50 x 0.3 m	W-05-170_120705_D1
W-05-171	VK, LT, AW, AP, DM	E	286 seconds x 85 m	W-05-171_120705_E1
W-05-173	VK, LT, AW, AP, DM	E	253 seconds x 20 m	W-05-173_120705_E1
W-05-176	JC, VK	E	260 seconds x 80 m	W-05-176_180705_E1
W-05-176	JC, VK	O	Observed	W-05-176_180705_O1
W-05-177	JC, VK	E	708 seconds x 80 m	W-05-177_190705_E1
W-05-178	JC, VK	E	638 seconds x 150 m	W-05-178_190705_E1
W-05-180	JC, VK	E	450 seconds x 60 m	W-05-180_190705_E1
W-05-181	JC, VK	E	609 seconds x 100 m	W-05-181_190705_E1
W-05-182	JC, VK	E	868 seconds x 200 m	W-05-182_190705_E1
W-05-183	JC, VK	E	416 seconds x 80 m	W-05-183_190705_E1
W-05-185	JC, VK	E	416 seconds x 50 m	W-05-185_200705_E1
W-05-187	JC, AP	E	60 seconds x 7 m	W-05-187_250705_E1
W-05-188	JC, AP	E	531 seconds x 40 m	W-05-188_250705_E1
W-05-189	JC, AP	B	6 m x 10 m	W-05-189_260705_B1
W-05-190	JC, AP	E	362 seconds x 20 m	W-05-190_260705_E1
W-05-190	JC, AP	O	Observed	W-05-190_260705_O1
W-05-191	JC, AP	E	849 seconds x 50 m	W-05-191_260705_E1
W-05-192	JC, AP	E	757 seconds x 60 m	W-05-192_260705_E1
W-05-193	JC, AP	E	553 seconds x 30 m	W-05-193_260705_E1
W-05-194	JC, AP	E	290 seconds x 40 m	W-05-194_270705_E1
W-05-196	JC, AP	E	200 seconds x 40 m	W-05-196_270705_E1

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Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-05-200	JC, VK	E	310 seconds x 25 m	W-05-200_020805_E1
W-05-201	JC, VK	E	406 seconds x 80 m	W-05-201_020805_E1
W-05-202	JC, VK	E	273 seconds x 70 m	W-05-202_020805_E1
W-05-203	JC, VK	E	424 seconds x 60 m	W-05-203_030805_E1
W-05-203	JC, VK	O	Observed	W-05-203_030805_O1
W-05-205	JC, VK	E	389 seconds x 80 m	W-05-205_030805_E1
W-05-207	JC, VK	E	412 seconds x 35 m	W-05-207_080805_E1
W-05-208	JC, VK	E	354 seconds x 20 m	W-05-208_100805_E1
W-05-209	JC, VK, MK	E	290 seconds x 30 m	W-05-209_100805_E1
X-05-001	AP, AW, JC	B	2 m x 10 m	X-05-001_270405_B1
X-05-001	AP, AW, JC	K	1 m²	X-05-001_270405_K1
X-05-002	AP, AW, JC	B	5 m x 6 m	X-05-002_270405_B1
X-05-003	AP, AW, JC, VK	E	633 seconds x 100 m	X-05-003_290405_E1
X-05-005	AP, AW, JC, VK	E	478 seconds x 80 m	X-05-005_290405_E1
X-05-007	AP, AW, VK	E	328 seconds x 120 m	X-05-007_290405_E1
X-05-007	AP, AW, VK	O	Observed	X-05-007_290405_O1
X-05-011	AW, AP	B	14 m x 10 m	X-05-011_030505_B1
X-05-012	AW, AP	B	12 m x 2 m	X-05-012_030505_B1
X-05-015	AW, AP	E	217 seconds x 15 m	X-05-015_030505_E1
X-05-018	AW, AP	E	299 seconds x 100 m	X-05-018_040505_E1
X-05-018	AW, AP	O	Observed in culvert	X-05-018_040505_O1
X-05-020	AW, AP	E	425 seconds x 100 m	X-05-020_040505_E1
X-05-021	AW, AP	E	276 seconds x 100 m	X-05-021_040505_E1
X-05-021	AW, AP	O	Observation upstream of barrier	X-05-021_040505_O1
X-05-022	AW, AP	B	8 m x 30 m	X-05-022_040505_B1
X-05-022	AW, AP	E	112 seconds x 15 m	X-05-022_040505_E1
X-05-023	AW, AP	E	252 seconds x 20 m	X-05-023_040505_E1
X-05-023	AW, AP	K	1 m²	X-05-023_040505_K1
X-05-024	AW, AP	E	672 seconds x 100 m	X-05-024_050505_E1
X-05-024	AW, AP	K	1 m²	X-05-024_050505_K1
X-05-024	AW, AP	O	Observed on riffle	X-05-024_050505_O1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-05-026	AW, AP	E	393 seconds x 100 m	X-05-026_050505_E1
X-05-027	AW, AP	E	393 seconds x 100 m	X-05-027_060505_E1
X-05-028	AW, AP	E	230 seconds x 75	X-05-028_060505_E1
X-05-029	AW, AP	E	663 seconds x 120 m	X-05-029_060505_E1
X-05-030	AW, AP	E	396 seconds x 100 m	X-05-030_100505_E1
X-05-031	AW, AP	E	420 seconds x 70 m	X-05-031_100505_E1
X-05-032	AW, AP	E	327 seconds x 60 m	X-05-032_110505_E1
X-05-033	AW, AP	E	250 seconds x 60 m	X-05-033_110505_E1
X-05-034	AW, AP	E	500 seconds x 60 m	X-05-034_110505_E1
X-05-035	AW, AP	E	349 seconds x 100 m	X-05-035_110505_E1
X-05-036	AW, AP	E	533 seconds x 90 m	X-05-036_110505_E1
X-05-036	AW, AP	O	Dead on banks	X-05-036_110505_O1
X-05-037	AW, AP	E	649 seconds x 150 m	X-05-037_120505_E1
X-05-037	AW, AP	K	3 m²	X-05-037_120505_K1
X-05-038	AW, AP	E	569 seconds x 110 m	X-05-038_120505_E1
X-05-040	AW, AP	E	218 seconds x 75 m	X-05-040_120505_E1
X-05-042	AW, AP	E	423 seconds x 80 m	X-05-042_120505_E1
X-05-044	AW, AP	E	259 seconds x 70 m	X-05-044_130505_E1
X-05-045	AW, AP	E	649 seconds x 100 m	X-05-045_130505_E1
X-05-046	AW, AP	B	8 m x 6 m	X-05-046_130505_B1
X-05-046	AW, AP	E	449 seconds x 80 m	X-05-046_130505_E1
X-05-048	AW, AP	E	803 seconds x 150 m	X-05-048_140505_E1
X-05-051	AW, AP	E	301 seconds x 80 m	X-05-051_140505_E1
X-05-051	AW, AP	K	2 m²	X-05-051_140505_K1
X-05-052	AW, AP	E	343 seconds x 75 m	X-05-052_140505_E1
X-05-054	AW, AP	E	525 seconds x 120 m	X-05-054_150505_E1
X-05-055	AW, AP	E	370 seconds x 80 m	X-05-055_150505_E1
X-05-057	AW, AP	E	335 seconds x 80 m	X-05-057_150505_E1
X-05-060	AW, AP	E	201 seconds x 30 m	X-05-060_160505_E1
X-05-061	AW, AP	E	490 seconds x 90 m	X-05-061_160505_E1
X-05-062	AW, AP	E	436 seconds x 100 m	X-05-062_160505_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-05-062	AW, AP	K	3 m²	X-05-062_160505_K1
X-05-064	AW, AP	E	552 seconds x 80 m	X-05-064_160505_E1
X-05-066	AW, AP	E	451 seconds x 90 m	X-05-066_170505_E1
X-05-067	AW, AP	E	567 seconds x 150 m	X-05-067_170505_E1
X-05-067	AW, AP	L	19 hr.	X-05-067_170505_L1
X-05-069	AW, AP	E	563 seconds x 95 m	X-05-069_170505_E1
X-05-070	AW, AP	E	330 seconds x 85 m	X-05-070_180505_E1
X-05-070	AW, AP	L	17 hr.	X-05-070_180505_L1
X-05-071	AW, AP	E	362 seconds x 70 m	X-05-071_180505_E1
X-05-072	AW, AP	E	480 seconds x 90 m	X-05-072_180505_E1
X-05-079	AW, AP	B	15 m x 5 m	X-05-079_190505_B1
X-05-080	AW, AP	E	410 seconds x 90 m	X-05-080_190505_E1
X-05-081	AW, AP	E	185 seconds x 50 m	X-05-081_190505_E1
X-05-083	AW, AP	E	350 seconds x 70 m	X-05-083_190505_E1
X-05-084	AW, AP	E	252 seconds x 100 m	X-05-084_200505_E1
X-05-085	AW, AP	D	1 sweep	X-05-085_200505_D1
X-05-085	AW, AP	E	231 seconds x 80 m	X-05-085_200505_E1
X-05-086	AW, AP	E	157 seconds x 25 m	X-05-086_200505_E1
X-05-088	AW, AP	E	425 seconds x 105 m	X-05-088_240505_E1
X-05-089	AW, AP	D	3 sweeps	X-05-089_250505_D1
X-05-091	AW, AP	E	341 seconds x 30 m	X-05-091_250505_E1
X-05-093	AW, AP	B	5 m x 7 m	X-05-093_270505_B1
X-05-094	AW, AP	E	514 seconds x 100 m	X-05-094_270505_E1
X-05-095	AW, AP	E	621 seconds x 110 m	X-05-095_300505_E1
X-05-096	AW, AP	B	30 m x 6 m	X-05-096_300505_B1
X-05-098	AW, AP	E	392 seconds x 65 m	X-05-098_300505_E1
X-05-099	AW, AP	E	10 m x 7 m	X-05-099_310505_E1
X-05-100	AW, AP	E	325 seconds x 45 m	X-05-100_310505_E1
X-05-102	AW, AP	E	534 seconds x 60 m	X-05-102_310505_E1
X-05-103	AW, AP	E	332 seconds x 75 m	X-05-103_310505_E1
X-05-104	AW, AP	E	502 seconds x 110 m	X-05-104_310505_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-05-105	AW, AP	E	443 seconds x 115 m	X-05-105_010605_E1
X-05-106	AW, AP	E	448 seconds x 85 m	X-05-106_010605_E1
X-05-107	AW, AP	E	251 seconds x 25 m	X-05-107_010605_E1
X-05-109	AW, AP	E	565 seconds x 120 m	X-05-109_010605_E1
X-05-111	AW, AP	E	509 seconds x 120 m	X-05-111_020605_E1
X-05-112	AW, AP	E	407 seconds x 80 m	X-05-112_020605_E1
X-05-114	AW, AP	E	400 seconds x 100 m	X-05-114_020605_E1
X-05-115	AW, AP	B	10 m x 10 m	X-05-115_020605_B1
X-05-117	AW, AP	E	361 seconds x 60 m	X-05-117_020605_E1
X-05-118	AW, AP	E	394 seconds x 90 m	X-05-118_060605_E1
X-05-120	AW, AP	E	337 seconds x 80 m	X-05-120_060605_E1
X-05-121	AW, AP	E	272 seconds x 50 m	X-05-121_060605_E1
X-05-122	AW, AP	E	479 seconds x 100 m	X-05-122_060605_E1
X-05-123	AW, AP	E	332 seconds x 50 m	X-05-123_070605_E1
X-05-125	AW, AP	E	346 seconds x 65 m	X-05-125_070605_E1
X-05-126	AW, AP	E	431 seconds x 85 m	X-05-126_070605_E1
X-05-127	AW, AP	E	445 seconds x 70 m	X-05-127_090605_E1
X-05-128	AW, AP	E	121 seconds x 45 m	X-05-128_090605_E1
X-05-129	AW, AP	E	343 seconds x 70 m	X-05-129_100605_E1
X-05-130	AW, AP	E	304 seconds x 65 m	X-05-130_100605_E1
X-05-132	AW, AP	E	393 seconds x 90 m	X-05-132_130605_E1
X-05-133	AW, AP	E	210 seconds x 45 m	X-05-133_130605_E1
X-05-136	AW, AP	E	211 seconds x 45 m	X-05-136_130605_E1
X-05-137	AW, AP	E	502 seconds x 100 m	X-05-137_140605_E1
X-05-138	AW, AP	E	591 seconds x 115 m	X-05-138_140605_E1
X-05-139	AW, AP	E	286 seconds x 80 m	X-05-139_140605_E1
X-05-140	AW, AP	E	340 seconds x 65 m	X-05-140_140605_E1
X-05-140	AW, AP	O	Observed	X-05-140_140605_O1
X-05-144	AW, AP	E	387 seconds x 70 m	X-05-144_150605_E1
X-05-145	AW, AP	E	446 seconds x 90 m	X-05-145_150605_E1
X-05-146	AW, AP	E	706 seconds x 160 m	X-05-146_160605_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-05-148	AW, AP	E	205 seconds x 50 m	X-05-148_170605_E1
X-05-150	AW, AP	E	485 seconds x 110 m	X-05-150_210605_E1
X-05-151	AW, AP	E	868 seconds x 170 m	X-05-151_210605_E1
X-05-153	AW, AP	E	286 seconds x 60 m	X-05-153_210605_E1
X-05-154	AW, AP	E	727 seconds x 150 m	X-05-154_210605_E1
X-05-155	AW, AP	E	605 seconds x 110 m	X-05-155_220605_E1
X-05-157	AW, AP	E	259 seconds x 50 m	X-05-157_220605_E1
X-05-162	AW, AP	E	331 seconds x 20 m	X-05-162_230605_E1
X-05-163	AW, AP	E	198 seconds x 40 m	X-05-163_230605_E1
X-05-164	AW, AP	E	168 seconds x 25 m	X-05-164_230605_E1
X-05-165	AW, AP	E	362 seconds x 50 m	X-05-165_270605_E1
X-05-167	AW, AP	E	375 seconds x 60 m	X-05-167_280605_E1
X-05-168	AW, AP	E	214 seconds x 30 m	X-05-168_280605_E1
X-05-169	AW, AP	E	316 seconds x 70 m	X-05-169_280605_E1
X-05-171	AW, AP	E	457 seconds x 90 m	X-05-171_280605_E1
X-05-172	AW, AP	E	269 seconds x 60 m	X-05-172_290605_E1
X-05-173	AW, AP	E	402 seconds x 75 m	X-05-173_290605_E1
X-05-176	AW, AP, VK	E	353 seconds x 40 m	X-05-176_040705_E2
X-05-176	AW, AP, VK	E	356 seconds x 65 m	X-05-176_040705_E1
X-05-177	AW, AP, VK	D	1 sweep through pool	X-05-177_040705_D1
X-05-179	AW, AP, VK	E	416 seconds x 45 m	X-05-179_050705_E1
X-05-181	AW, AP, VK	E	357 seconds x 80 m	X-05-181_060705_E1
X-05-182	AW, AP, VK	E	339 seconds x 85 m	X-05-182_060705_E1
X-05-183	AW, AP, VK	E	286 seconds x 40 m	X-05-183_060705_E1
X-05-185	AW, AP, VK	E	658 seconds x 110 m	X-05-185_070705_E1
X-05-186	AW, AP	E	405 seconds x 65 m	X-05-186_070705_E1
X-05-188	AW, AP	E	416 seconds x 105 m	X-05-188_070705_E1
X-05-189	AW, AP	E	280 seconds x 50 m	X-05-189_080705_E1
X-05-189	AW, AP	O	Observed	X-05-189_080705_O1
X-05-190	DM, AW, AP, VK, LT	E	727 seconds x 40 m	X-05-190_110705_E1
X-05-191	AW, AP	E	289 seconds x 25 m	X-05-191_120705_E1

Appendix 4: List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
X-05-192	DM, AW, AP, VK, LT	E	895 seconds x 100 m	X-05-192_130705_E1
X-05-193	DM, AW, AP, VK, LT	E	858 seconds x 90 m	X-05-193_130705_E1
X-05-194	AW, AP, VK, LT	E	445 seconds x 50 m	X-05-194_130705_E1
X-05-195	AW, AP, VK, LT	E	286 seconds x 30 m	X-05-195_130705_E1
X-05-196	AW, AP, VK, LT	E	352 seconds x 39 m	X-05-196_140705_E1
X-05-198	AW, AP	E	345 seconds x 45 m	X-05-198_140705_E1
X-05-199	AW, AP	E	205 seconds x 25 m	X-05-199_140705_E1
X-05-200	AW, AP	E	398 seconds x 30 m	X-05-200_150705_E1
X-05-201	AW, AP	D	4 sweeps under culvert	X-05-201_030805_D1
X-05-202	AW, AP	B	4 m x 5 m	X-05-202_030805_B1
X-05-204	AW, AP	E	376 seconds x 45 m	X-05-204_040805_E1
X-05-207	AW, AP	E	183 seconds x 45 m	X-05-207_040805_E1
X-05-208	AW, AP	E	575 seconds x 60 m	X-05-208_040805_E1
X-05-209	AW, AP	E	656 seconds x 150 m	X-05-209_160605_E1
X-05-210	AW, AP	E	302 seconds x 75 m	X-05-210_220605_E1
D-06-001	DM, CM, SK	E	437 seconds x 90 m	D-06-001_060706_E1
W-06-001	JC, VK	E	379 seconds x 40 m	W-06-001_090506_E1
W-06-003	JC, VK	E	415 seconds x 50 m	W-06-003_090506_E1
W-06-004	JC, VK	E	284 seconds x 50 m	W-06-004_090506_E1
W-06-007	JC, VK	E	291 seconds x 50 m	W-06-007_100506_E1
W-06-008	JC, VK	E	343 seconds x 70 m	W-06-008_100506_E1
W-06-009	JC, VK	E	421 seconds x 50 m	W-06-009_100506_E1
W-06-010	JC, VK	B	3 m x 10 m	W-06-010_100506_B1
W-06-012	JC, VK	E	183 seconds x 20 m	W-06-012_110506_E1
W-06-015	JC, VK	E	190 seconds x 30 m	W-06-015_110506_E1
W-06-016	JC, VK	E	331 seconds x 90 m	W-06-016_110506_E1
W-06-017	JC, VK	E	378 seconds x 80 m	W-06-017_120506_E1
W-06-018	JC, VK	E	168 seconds x 20 m	W-06-018_120506_E1
W-06-019	JC, VK	E	308 seconds x 40 m	W-06-019_150506_E1
W-06-020	JC, VK	E	387 seconds x 80 m	W-06-020_150506_E1
W-06-021	JC, VK	E	167 seconds x 80 m	W-06-021_160506_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-06-022	JC, VK	E	367 seconds x 100 m	W-06-022_160506_E1
W-06-023	JC, VK	E	487 seconds x 100 m	W-06-023_160506_E1
W-06-025	JC, VK	E	460 seconds x 100 m	W-06-025_170506_E1
W-06-026	JC, VK	E	716 seconds x 100 m	W-06-026_170506_E1
W-06-027	JC, VK	B	5 m x 13 m	W-06-027_170506_B1
W-06-028	JC, VK	E	496 seconds x 80 m	W-06-028_170506_E1
W-06-029	JC, VK	E	135 seconds x 25 m	W-06-029_230506_E1
W-06-030	JC, VK	E	370 seconds x 100 m	W-06-030_230506_E1
W-06-031	JC, VK	E	382 seconds x 100 m	W-06-031_230506_E1
W-06-032	JC, VK	E	278 seconds x 75 m	W-06-032_240506_E1
W-06-036	JC, VK	E	194 seconds x 80 m	W-06-036_250506_E1
W-06-037	JC, VK	E	199 seconds x 30 m	W-06-037_250506_E1
W-06-040	JC, VK	E	397 seconds x 90 m	W-06-040_260506_E1
W-06-043	JC, VK	E	190 seconds x 70 m	W-06-043_260506_E1
W-06-045	JC, VK	E	204 seconds x 80 m	W-06-045_260506_E1
W-06-046	JC, VK	E	180 seconds x 80 m	W-06-046_270506_E1
W-06-049	JC, VK	E	530 seconds x 90 m	W-06-049_270506_E1
W-06-054	JC, VK	E	391 seconds x 100 m	W-06-054_300506_E1
W-06-055	JC, VK	E	194 seconds x 80 m	W-06-055_300506_E1
W-06-056	JC, VK	E	109 seconds x 80 m	W-06-056_310506_E1
W-06-058	JC, VK	B	10 m x 20 m	W-06-058_010606_B1
W-06-060	JC, VK	B	7 m x 30 m	W-06-060_010606_B1
W-06-061	JC, VK	E	385 seconds x 70 m	W-06-061_060606_E1
W-06-062	JC, VK	E	445 seconds x 60 m	W-06-062_060606_E1
W-06-064	JC, VK	E	323 seconds x 60 m	W-06-064_070606_E1
W-06-065	JC, VK	E	289 seconds x 90 m	W-06-065_070606_E1
W-06-066	JC, VK	E	349 seconds x 60 m	W-06-066_070606_E1
W-06-067	JC, VK	E	438 seconds x 100 m	W-06-067_080606_E1
W-06-068	JC, VK	E	438 seconds x 120 m	W-06-068_080606_E1
W-06-070	JC, VK	E	868 seconds x 120 m	W-06-070_120606_E1
W-06-074	JC, VK	E	294 seconds x 85 m	W-06-074_130606_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-06-076	JC, VK	E	98 seconds x 20 m	W-06-076_130606_E1
W-06-077	JC, VK	E	184 seconds x 80 m	W-06-077_130606_E1
W-06-078	JC, VK	E	364 seconds x 110 m	W-06-078_140606_E1
W-06-079	JC, VK	E	643 seconds x 50 m	W-06-079_140606_E1
W-06-083	JC, VK	E	1308 seconds x 125 m	W-06-083_200606_E1
W-06-085	JC, VK	E	218 seconds x 80 m	W-06-085_210606_E1
W-06-087	JC, VK	E	496 seconds x 100 m	W-06-087_220606_E1
W-06-088	JC, VK	E	151 seconds x 30 m	W-06-088_220606_E1
W-06-089	JC, VK	E	129 seconds x 50 m	W-06-089_220606_E1
W-06-090	JC, VK	E	816 seconds x 100 m	W-06-090_220606_E1
W-06-091	JC, VK	E	616 seconds x 60 m	W-06-091_230606_E1
W-06-092	JC, VK	E	335 seconds x 45 m	W-06-092_230606_E1
W-06-093	JC, VK	E	194 seconds x 35 m	W-06-093_230606_E1
W-06-094	JC, VK	E	227 seconds x 40 m	W-06-094_270606_E1
W-06-096	JC, VK	E	945 seconds x 120 m	W-06-096_270606_E1
W-06-097	JC, VK	E	445 seconds x 80 m	W-06-097_270606_E1
W-06-098	JC, VK	E	369 seconds x 50 m	W-06-098_280606_E1
W-06-099	JC, VK	O	Observed, stranded and dead	W-06-099_280606_O1
W-06-100	JC, VK	E	600 seconds x 70 m	W-06-100_280606_E1
W-06-102	JC, VK	D	One sweep	W-06-102_280606_D1
W-06-106	JC, VK	E	205 seconds x 50 m	W-06-106_290606_E1
W-06-110	JC, VK	E	479 seconds x 70 m	W-06-110_050706_E1
W-06-112	JC, VK	E	197 seconds x 40 m	W-06-112_050706_E1
W-06-113	JC, VK	E	887 seconds x 110 m	W-06-113_060706_E1
W-06-114	JC, VK	E	287 seconds x 80 m	W-06-114_100706_E1
W-06-116	JC, VK	D	10 sweeps over cobble	W-06-116_110706_D1
W-06-119	JC, VK	E	486 seconds x 80 m	W-06-119_110706_E1
W-06-121	JC, VK	E	386 seconds x 80 m	W-06-121_120706_E1
W-06-124	JC, VK	E	361 seconds x 40 m	W-06-124_180706_E1
W-06-126	JC, VK	E	716 seconds x 100 m	W-06-126_180706_E1
W-06-133	JC, VK	E	530 seconds x 60 m	W-06-133_190706_E1

Appendix 4: **List of all fishing effort showing the site number, collectors, fishing gear used, amount of fishing effort applied and the fish capture identification (ID) number derived for each occasion where effort was applied.**

Site Number	Collectors	Gear ID	Effort	Fish Capture ID (Crew_Date_Gear)
W-06-134	JC, VK	E	621 seconds x 80 m	W-06-134_200706_E1
W-06-138	DM, JC	E	329 seconds x 50 m	W-06-138_010806_E1
W-06-139	DM, JC	E	269 seconds x 40 m	W-06-139_010806_E1
W-06-140	DM, JC	E	296 seconds x 40 m	W-06-140_010806_E1
W-06-141	DM, JC	E	324 seconds x 50 m	W-06-141_010806_E1
W-06-143	DM, JC	E	349 seconds x 30 m	W-06-143_020806_E1
W-06-144	JC, VK	E	369 seconds x 80 m	W-06-144_080806_E1
W-06-146	JC, VK	E	209 seconds x 60 m	W-06-146_090806_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-002	Creek Chub	6			D-02-002_170402_E1
D-02-002	Fathead Minnow	1			D-02-002_170402_E1
D-02-002	Johnny Darter	2			D-02-002_170402_E1
D-02-002	River Darter	1			D-02-002_170402_E1
D-02-002	Longnose Dace	1			D-02-002_170402_E1
D-02-004	Common Shiner	3			D-02-004_220402_E1
D-02-004	Western Blacknose Dace	2			D-02-004_220402_E1
D-02-004	White Sucker	1	200		D-02-004_220402_E1
D-02-005	Eggs	4		4 Percidae eggs, 2 viable, +1.25 mm, golden nucleus, assumed to be Walleye	D-02-005_020502_K1
D-02-008	Northern Pike	1	181		D-02-008_070502_E1
D-02-008	White Sucker	2	390, 450		D-02-008_070502_E1
D-02-009	Blackside Darter	3			D-02-009_070502_E1
D-02-009	Brook Stickleback	1			D-02-009_070502_E1
D-02-009	Creek Chub	1			D-02-009_070502_E1
D-02-009	Northern Pike	1	278		D-02-009_070502_E1
D-02-009	White Sucker	6	76-450		D-02-009_070502_E1
D-02-009	Yellow Perch	1	76		D-02-009_070502_E1
D-02-010	No Catch				D-02-010_090502_E1
D-02-011	No Catch				D-02-011_090502_E1
D-02-012	Brook Stickleback	1			D-02-012_090502_E1
D-02-012	Central Mudminnow	1			D-02-012_090502_E1
D-02-013	No Catch				D-02-013_100502_E1
D-02-014	Central Mudminnow	1			D-02-014_110502_E1
D-02-014	Central Mudminnow	2			D-02-014_110502_K1
D-02-014	Fathead Minnow	1			D-02-014_110502_K1
D-02-014	Finescale Dace	1			D-02-014_110502_E1
D-02-015	Brook Stickleback	1			D-02-015_110502_E1
D-02-015	Central Mudminnow	10			D-02-015_110502_E1
D-02-016	No Catch				D-02-016_110502_E1
D-02-018	Brook Stickleback	5			D-02-018_120502_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-018	Central Mudminnow	5			D-02-018_120502_E1
D-02-018	Northern Pike				D-02-018_120502_A1
D-02-018	White Sucker	6	60-176		D-02-018_120502_E1
D-02-022	Eggs	8		8 Sucker eggs, 6 viable	D-02-022_120502_K1
D-02-023	Eggs	22		22 Sucker eggs, 14 viable	D-02-023_120502_K1
D-02-026	Northern Pike	2	457, 495		D-02-026_130502_E1
D-02-026	White Sucker	2	285, 291		D-02-026_130502_E1
D-02-026	Eggs	42		42 Sucker eggs, 31 viable	D-02-026_130502_K1
D-02-027	Brook Stickleback	7			D-02-027_130502_E1
D-02-027	Central Mudminnow	16			D-02-027_130502_E1
D-02-027	Fathead Minnow	44			D-02-027_130502_E1
D-02-028	Brook Stickleback	8			D-02-028_130502_E1
D-02-028	Central Mudminnow	9			D-02-028_130502_E1
D-02-028	Fathead Minnow	40			D-02-028_130502_E1
D-02-028	White Sucker	8	59-126		D-02-028_130502_E1
D-02-028	Eggs	10		Numerous Sucker eggs in kick sample, mostly viable	D-02-028_130502_K1
D-02-031	Creek Chub	17			D-02-031_150502_E1
D-02-031	Fathead Minnow	7			D-02-031_150502_E1
D-02-031	Finescale Dace	16			D-02-031_150502_E1
D-02-031	Johnny Darter	3			D-02-031_150502_E1
D-02-031	Northern Redbelly Dace	21			D-02-031_150502_E1
D-02-031	Western Blacknose Dace	7			D-02-031_150502_E1
D-02-033	Creek Chub	6			D-02-033_150502_E1
D-02-033	Fathead Minnow	40			D-02-033_150502_E1
D-02-033	Finescale Dace	23			D-02-033_150502_E1
D-02-033	Northern Redbelly Dace	1			D-02-033_150502_E1
D-02-033	Silver Redhorse	1	122		D-02-033_150502_E1
D-02-033	Eggs	19		19 Percidae eggs, 14 viable, assumed to be Walleye +1mm, golden nucleus	D-02-033_150502_K1
D-02-033	Western Blacknose Dace	9			D-02-033_150502_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-033	White Sucker	4	73-88		D-02-033_150502_E1
D-02-034	Johnny Darter	2			D-02-034_160502_E1
D-02-034	Northern Pike	1		One mature Northern Pike observed	D-02-034_160502_A1
D-02-035	No Catch				D-02-035_160502_E1
D-02-036	Brook Stickleback	8			D-02-036_160502_E1
D-02-036	Central Mudminnow	3			D-02-036_160502_E1
D-02-036	Creek Chub	1			D-02-036_160502_E1
D-02-036	Northern Pike	4	140-237		D-02-036_160502_E1
D-02-036	Western Blacknose Dace	1			D-02-036_160502_E1
D-02-036	White Sucker	3	99, 108, 300		D-02-036_160502_E1
D-02-037	White Sucker	1		Mature White Sucker found dead on cobble under bridge	D-02-037_160502_O1
D-02-043	No Catch				D-02-043_210502_E1
D-02-044	Blacknose Shiner	10			D-02-044_210502_E1
D-02-044	Common Shiner	10			D-02-044_210502_E1
D-02-044	Creek Chub	12			D-02-044_210502_E1
D-02-044	Emerald Shiner	8			D-02-044_210502_E1
D-02-044	Fathead Minnow	1			D-02-044_210502_E1
D-02-044	Western Blacknose Dace	2			D-02-044_210502_E1
D-02-044	White Sucker	29			D-02-044_210502_E1
D-02-045	Brook Stickleback	1			D-02-045_220502_E1
D-02-045	Creek Chub	5			D-02-045_220502_E1
D-02-045	Fathead Minnow	8			D-02-045_220502_E1
D-02-045	Finescale Dace	1			D-02-045_220502_E1
D-02-045	Johnny Darter	2			D-02-045_220502_E1
D-02-045	Longnose Dace	2			D-02-045_220502_E1
D-02-045	Western Blacknose Dace	1			D-02-045_220502_E1
D-02-045	White Sucker	3	49-61		D-02-045_220502_E1
D-02-048	No Catch				D-02-048_230502_E1
D-02-051	No Catch				D-02-051_240502_E1
D-02-054	No Catch				D-02-054_240502_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-056	Brook Stickleback	6			D-02-056_240502_E1
D-02-056	Creek Chub	1			D-02-056_240502_E1
D-02-056	Fathead Minnow	2			D-02-056_240502_E1
D-02-056	Finescale Dace	5			D-02-056_240502_E1
D-02-056	Johnny Darter	1			D-02-056_240502_E1
D-02-056	Longnose Dace	1			D-02-056_240502_E1
D-02-056	Western Blacknose Dace	4			D-02-056_240502_E1
D-02-058	Brook Stickleback	10			D-02-058_240502_E1
D-02-058	Creek Chub	3			D-02-058_240502_E1
D-02-058	Finescale Dace	6			D-02-058_240502_E1
D-02-058	Northern Redbelly Dace	7			D-02-058_240502_E1
D-02-058	Western Blacknose Dace	1			D-02-058_240502_E1
D-02-060	Brook Stickleback	1			D-02-060_270502_E1
D-02-060	Creek Chub	1			D-02-060_270502_E1
D-02-060	Johnny Darter	1			D-02-060_270502_E1
D-02-060	Western Blacknose Dace	5			D-02-060_270502_E1
D-02-060	Finescale Dace	2			D-02-060_270502_K1
D-02-061	Black Bullhead	1			D-02-061_280502_E1
D-02-061	Blackside Darter	3			D-02-061_280502_E1
D-02-061	Iowa Darter	1			D-02-061_280502_E1
D-02-061	Johnny Darter	5			D-02-061_280502_E1
D-02-061	Tadpole Madtom	16			D-02-061_280502_E1
D-02-061	White Sucker	1	96		D-02-061_280502_E1
D-02-062	Black Bullhead	3			D-02-062_280502_E1
D-02-062	Blackside Darter	16			D-02-062_280502_E1
D-02-062	Common Carp	3			D-02-062_280502_E1
D-02-062	Creek Chub	1			D-02-062_280502_E1
D-02-062	Johnny Darter	6			D-02-062_280502_E1
D-02-062	River Darter	4			D-02-062_280502_E1
D-02-062	Tadpole Madtom	2			D-02-062_280502_E1
D-02-062	White Sucker	8	226-389		D-02-062_280502_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-065	Northern Pike	2		Dead, found on shore	D-02-065_290502_O1
D-02-065	Northern Pike	2	390, 451		D-02-065_290502_D1
D-02-067	Creek Chub	4			D-02-067_290502_E1
D-02-067	Fathead Minnow	25			D-02-067_290502_E1
D-02-067	Finescale Dace	37			D-02-067_290502_E1
D-02-067	Johnny Darter	2			D-02-067_290502_E1
D-02-067	Northern Redbelly Dace	18			D-02-067_290502_E1
D-02-067	Pearl Dace	7			D-02-067_290502_E1
D-02-067	Western Blacknose Dace	17			D-02-067_290502_E1
D-02-067	White Sucker	5	45-168		D-02-067_290502_E1
D-02-068	Creek Chub	25			D-02-068_290502_E1
D-02-068	Fathead Minnow	38			D-02-068_290502_E1
D-02-068	Finescale Dace	7			D-02-068_290502_E1
D-02-068	Longnose Dace	2			D-02-068_290502_E1
D-02-068	Western Blacknose Dace	5			D-02-068_290502_E1
D-02-068	White Sucker	8	59-301		D-02-068_290502_E1
D-02-069	Brook Stickleback	18			D-02-069_290502_E1
D-02-069	Creek Chub	11			D-02-069_290502_E1
D-02-069	Finescale Dace	11			D-02-069_290502_E1
D-02-069	Northern Pike	2	160, 180		D-02-069_290502_E1
D-02-069	Western Blacknose Dace	2			D-02-069_290502_E1
D-02-069	White Sucker	17	53-189		D-02-069_290502_E1
D-02-070	Eggs	10		Sucker eggs	D-02-070_300502_L1
D-02-071	Brook Stickleback	9			D-02-071_300502_E1
D-02-071	Creek Chub	4			D-02-071_300502_E1
D-02-071	Fathead Minnow	10			D-02-071_300502_E1
D-02-071	Iowa Darter	1			D-02-071_300502_E1
D-02-071	Johnny Darter	3			D-02-071_300502_E1
D-02-071	Western Blacknose Dace	14			D-02-071_300502_E1
D-02-071	White Sucker	11	80-109		D-02-071_300502_E1
D-02-072	Northern Pike			Observed dead on shore	D-02-072_030602_O1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-072	Yellow Perch			Observed dead on shore	D-02-072_030602_O1
D-02-073	White Sucker	4	12*	Larvae, 12mm total length	D-02-073_030602_L1
D-02-074	Black Bullhead	1			D-02-074_030602_E1
D-02-074	Blackside Darter	3			D-02-074_030602_E1
D-02-074	Common Shiner	3			D-02-074_030602_E1
D-02-074	Emerald Shiner	1			D-02-074_030602_E1
D-02-074	Northern Pike	1	181		D-02-074_030602_E1
D-02-074	Rock Bass	4	70-120		D-02-074_030602_E1
D-02-074	Tadpole Madtom	1			D-02-074_030602_E1
D-02-074	White Sucker	1	109		D-02-074_030602_E1
D-02-074	Yellow Perch	1	98		D-02-074_030602_E1
D-02-075	Central Mudminnow	8			D-02-075_040602_E1
D-02-075	Common Shiner	20			D-02-075_040602_E1
D-02-075	Fathead Minnow	5			D-02-075_040602_E1
D-02-075	White Sucker	1	279		D-02-075_040602_E1
D-02-076	Brook Stickleback	4			D-02-076_050602_E1
D-02-076	Central Mudminnow	17			D-02-076_050602_E1
D-02-076	Fathead Minnow	4			D-02-076_050602_E1
D-02-076	Iowa Darter	6			D-02-076_050602_E1
D-02-076	Johnny Darter	1			D-02-076_050602_E1
D-02-077	Central Mudminnow	1			D-02-077_050602_E1
D-02-077	Common Shiner	7			D-02-077_050602_E1
D-02-077	Fathead Minnow	3			D-02-077_050602_E1
D-02-077	White Sucker	1	111		D-02-077_050602_E1
D-02-078	Brook Stickleback	2			D-02-078_050602_E1
D-02-078	Central Mudminnow	8			D-02-078_050602_E1
D-02-078	Common Shiner	30	122-160		D-02-078_050602_E1
D-02-078	Fathead Minnow	17			D-02-078_050602_E1
D-02-078	Johnny Darter	1			D-02-078_050602_E1
D-02-078	White Sucker	6	80-161		D-02-078_050602_E1
D-02-081	Central Mudminnow	5			D-02-081_060602_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-081	Northern Pike	1	190		D-02-081_060602_E1
D-02-081	Spottail Shiner	25			D-02-081_060602_E1
D-02-081	White Sucker	5	83-133		D-02-081_060602_E1
D-02-083	Central Mudminnow	11			D-02-083_060602_E1
D-02-083	Emerald Shiner	1			D-02-083_060602_E1
D-02-084	Brook Stickleback	4			D-02-084_120602_E1
D-02-084	Central Mudminnow	14			D-02-084_120602_E1
D-02-084	Fathead Minnow	6			D-02-084_120602_E1
D-02-084	Logperch	9			D-02-084_120602_E1
D-02-084	Spottail Shiner	59			D-02-084_120602_E1
D-02-084	Yellow Perch	13	70-75		D-02-084_120602_E1
D-02-087	Brook Stickleback	2			D-02-087_120602_E1
D-02-087	Central Mudminnow	1			D-02-087_120602_E1
D-02-087	Fathead Minnow	3			D-02-087_120602_E1
D-02-088	Northern Pike	5	202-366		D-02-088_130602_E1
D-02-089	Brook Stickleback	3			D-02-089_130602_E1
D-02-089	Central Mudminnow	3			D-02-089_130602_E1
D-02-089	Common Carp	1	405		D-02-089_130602_E1
D-02-089	Fathead Minnow	1			D-02-089_130602_E1
D-02-089	Northern Pike	1	261		D-02-089_130602_E1
D-02-089	Yellow Perch	5	66-106		D-02-089_130602_E1
D-02-092	Brook Stickleback	5			D-02-092_130602_E1
D-02-092	Central Mudminnow	6			D-02-092_130602_E1
D-02-092	Emerald Shiner	1			D-02-092_130602_E1
D-02-092	Fathead Minnow	39			D-02-092_130602_E1
D-02-092	White Sucker	1	59		D-02-092_130602_E1
D-02-092	Yellow Perch	15	50-66		D-02-092_130602_E1
D-02-093	Brook Stickleback	2			D-02-093_140602_E1
D-02-093	Common Shiner	3			D-02-093_140602_E1
D-02-093	Creek Chub	12			D-02-093_140602_E1
D-02-093	Fathead Minnow	2			D-02-093_140602_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-093	Finescale Dace	7			D-02-093_140602_E1
D-02-093	Longnose Dace	1			D-02-093_140602_E1
D-02-093	Western Blacknose Dace	3			D-02-093_140602_E1
D-02-093	White Sucker	3			D-02-093_140602_E1
D-02-094	Fathead Minnow	7			D-02-094_180602_E1
D-02-095	No Catch				D-02-095_180602_E1
D-02-096	Brook Stickleback	3			D-02-096_190602_E1
D-02-096	Central Mudminnow	1			D-02-096_190602_E1
D-02-096	Common Shiner	2			D-02-096_190602_E1
D-02-096	Fathead Minnow	8			D-02-096_190602_E1
D-02-097	Brook Stickleback	13		Spawning	D-02-097_190602_E1
D-02-097	Central Mudminnow	6		Spawning	D-02-097_190602_E1
D-02-097	Emerald Shiner	17			D-02-097_190602_E1
D-02-097	Finescale Dace	1			D-02-097_190602_E1
D-02-097	Hornyhead Chub	2			D-02-097_190602_E1
D-02-097	Northern Redbelly Dace	1			D-02-097_190602_E1
D-02-097	Pearl Dace	2			D-02-097_190602_E1
D-02-100	White Sucker	1	119		D-02-100_200602_E1
D-02-101	White Sucker	2	113-120		D-02-101_200602_E1
D-02-102	White Sucker	1	281		D-02-102_200602_E1
D-02-104	Brook Stickleback	4			D-02-104_200602_E1
D-02-104	Finescale Dace	2			D-02-104_200602_E1
D-02-104	Northern Redbelly Dace	2			D-02-104_200602_E1
D-02-104	White Sucker	4	109-135		D-02-104_200602_E1
D-02-107	Fathead Minnow	2			D-02-107_210602_E1
D-02-108	Brook Stickleback	9			D-02-108_210602_E1
D-02-111	Creek Chub	10		Young-of-the-Year (YOY)	D-02-111_260602_E1
D-02-111	Fathead Minnow	5			D-02-111_260602_E1
D-02-116	Unidentified minnow	1	10.2*	Post-larval stage	D-02-116_030702_E1
D-02-118	Northern Pike	1	80	YOY-Several observed	D-02-118_030702_E1
D-02-119	Brook Stickleback	7			D-02-119_040702_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-119	Central Mudminnow	2			D-02-119_040702_E1
D-02-119	Common Carp	1		YOY	D-02-119_040702_E1
D-02-119	Fathead Minnow	19		Spawning	D-02-119_040702_E1
D-02-121	Brook Stickleback	5			D-02-121_040702_E1
D-02-121	Central Mudminnow	3			D-02-121_040702_E1
D-02-121	Common Carp	1			D-02-121_040702_E1
D-02-121	Fathead Minnow	46			D-02-121_040702_E1
D-02-121	Yellow Perch	1	123		D-02-121_040702_E1
D-02-122	Central Mudminnow	3			D-02-122_040702_E1
D-02-122	Fathead Minnow	7		Spawning	D-02-122_040702_E1
D-02-124	Brook Stickleback	51			D-02-124_040702_B1
D-02-124	Fathead Minnow	230			D-02-124_040702_B1
D-02-124	Iowa Darter	2			D-02-124_040702_B1
D-02-124	Johnny Darter	7			D-02-124_040702_B1
D-02-125	Brook Stickleback	2			D-02-125_090702_E1
D-02-125	Central Mudminnow	8			D-02-125_090702_E1
D-02-125	Johnny Darter	2			D-02-125_090702_E1
D-02-125	White Sucker	5	71-100		D-02-125_090702_E1
D-02-126	Brook Stickleback	5			D-02-126_090702_B1
D-02-126	Northern Pike	1	451		D-02-126_090702_B1
D-02-126	White Sucker	4	189-301		D-02-126_090702_B1
D-02-127	Johnny Darter	6			D-02-127_090702_E1
D-02-127	White Sucker	4	140-160		D-02-127_090702_E1
D-02-130	Northern Pike	2	195, 200		D-02-130_090702_B1
D-02-131	White Sucker	4	90-100	Juvenile	D-02-131_090702_B1
D-02-132	Brook Stickleback	3			D-02-132_100702_E1
D-02-132	Central Mudminnow	18			D-02-132_100702_E1
D-02-135	White Sucker	1	348		D-02-135_100702_E1
D-02-137	Brook Stickleback	38			D-02-137_120702_E1
D-02-137	Fathead Minnow	41			D-02-137_120702_E1
D-02-137	Finescale Dace	3			D-02-137_120702_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-137	Longnose Dace	1			D-02-137_120702_E1
D-02-137	Western Blacknose Dace	13		10 YOY	D-02-137_120702_E1
D-02-138	Brook Stickleback	28			D-02-138_120702_B1
D-02-138	Creek Chub	22			D-02-138_120702_B1
D-02-138	Fathead Minnow	25			D-02-138_120702_B1
D-02-139	Creek Chub	7			D-02-139_120702_E1
D-02-139	Fathead Minnow	13			D-02-139_120702_E1
D-02-139	Finescale Dace	11		3 YOY	D-02-139_120702_E1
D-02-139	Longnose Dace	3		1 YOY	D-02-139_120702_E1
D-02-139	Western Blacknose Dace	3			D-02-139_120702_E1
D-02-139	White Sucker	3		YOY	D-02-139_120702_E1
D-02-142	Brook Stickleback	4			D-02-142_170702_E1
D-02-142	Creek Chub	11			D-02-142_170702_E1
D-02-142	Finescale Dace	3			D-02-142_170702_E1
D-02-142	Iowa Darter	1			D-02-142_170702_E1
D-02-142	Johnny Darter	3			D-02-142_170702_E1
D-02-142	Western Blacknose Dace	4			D-02-142_170702_E1
D-02-147	Brook Stickleback	36			D-02-147_170702_E1
D-02-147	Creek Chub	21		YOY	D-02-147_170702_E1
D-02-149	Blacknose Shiner	4			D-02-149_170702_E1
D-02-149	Blackside Darter	7			D-02-149_170702_E1
D-02-149	Common Shiner	2			D-02-149_170702_E1
D-02-149	Creek Chub	6			D-02-149_170702_E1
D-02-149	Johnny Darter	13			D-02-149_170702_E1
D-02-149	Longnose Dace	3			D-02-149_170702_E1
D-02-149	Western Blacknose Dace	13			D-02-149_170702_E1
D-02-149	White Sucker	7	31-34*	YOY	D-02-149_170702_E1
D-02-160	Common Shiner	1			D-02-160_230702_E1
D-02-160	Johnny Darter	5			D-02-160_230702_E1
D-02-160	Logperch	2			D-02-160_230702_E1
D-02-160	Longnose Dace	10			D-02-160_230702_E1

Appendix 5: List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-160	River Darter	4			D-02-160_230702_E1
D-02-160	Western Blacknose Dace	7			D-02-160_230702_E1
D-02-161	Blacknose Shiner	7			D-02-161_230702_E1
D-02-161	Central Mudminnow	1			D-02-161_230702_E1
D-02-161	Creek Chub	7			D-02-161_230702_E1
D-02-161	Longnose Dace	5			D-02-161_230702_E1
D-02-161	Western Blacknose Dace	5			D-02-161_230702_E1
D-02-164	Brook Stickleback	2			D-02-164_240702_E1
D-02-164	Finescale Dace	4			D-02-164_240702_E1
D-02-164	Western Blacknose Dace	16			D-02-164_240702_E1
D-02-167	Brook Stickleback	16			D-02-167_240702_B1
D-02-167	Creek Chub	19	14*	YOY	D-02-167_240702_B1
D-02-170	Brook Stickleback	1			D-02-170_240702_E1
D-02-170	Creek Chub	17			D-02-170_240702_E1
D-02-170	Fathead Minnow	10			D-02-170_240702_E1
D-02-170	Johnny Darter	1			D-02-170_240702_E1
D-02-170	Pearl Dace	2			D-02-170_240702_E1
D-02-170	Western Blacknose Dace	7			D-02-170_240702_E1
D-02-170	White Sucker	15	66-116		D-02-170_240702_E1
D-02-171	Brook Stickleback	11			D-02-171_250702_E1
D-02-171	Creek Chub	5			D-02-171_250702_E1
D-02-171	Fathead Minnow	2			D-02-171_250702_E1
D-02-171	Finescale Dace	10			D-02-171_250702_E1
D-02-171	Northern Redbelly Dace	3			D-02-171_250702_E1
D-02-171	White Sucker	2	110	Immature	D-02-171_250702_E1
D-02-173	Fathead Minnow	12			D-02-173_250702_E1
D-02-173	Finescale Dace	29			D-02-173_250702_E1
D-02-173	Johnny Darter	5			D-02-173_250702_E1
D-02-173	Western Blacknose Dace	2			D-02-173_250702_E1
D-02-173	White Sucker	5	73-155		D-02-173_250702_E1
D-02-178	Brook Stickleback	6			D-02-178_250702_B1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-178	Central Mudminnow	3			D-02-178_250702_B1
D-02-178	Creek Chub	15			D-02-178_250702_B1
D-02-178	Fathead Minnow	77			D-02-178_250702_B1
D-02-178	Finescale Dace	82			D-02-178_250702_B1
D-02-178	Johnny Darter	5			D-02-178_250702_B1
D-02-178	White Sucker	68	33*-111		D-02-178_250702_B1
D-02-179	Brook Stickleback	4			D-02-179_300702_E1
D-02-179	Creek Chub	4			D-02-179_300702_E1
D-02-179	Finescale Dace	25			D-02-179_300702_E1
D-02-179	Longnose Dace	3			D-02-179_300702_E1
D-02-179	Western Blacknose Dace	3			D-02-179_300702_E1
D-02-179	White Sucker	9	76-170		D-02-179_300702_E1
D-02-180	Central Mudminnow	1			D-02-180_300702_E1
D-02-180	Common Shiner	1			D-02-180_300702_E1
D-02-180	Creek Chub	24			D-02-180_300702_E1
D-02-180	Fathead Minnow	3			D-02-180_300702_E1
D-02-180	Johnny Darter	4			D-02-180_300702_E1
D-02-180	Longnose Dace	3			D-02-180_300702_E1
D-02-180	Northern Pike	4	122-160		D-02-180_300702_E1
D-02-180	Western Blacknose Dace	1			D-02-180_300702_E1
D-02-180	White Sucker	5	88-100		D-02-180_300702_E1
D-02-181	Blacknose Shiner	6			D-02-181_310702_E1
D-02-181	Creek Chub	1			D-02-181_310702_E1
D-02-181	Emerald Shiner	1			D-02-181_310702_E1
D-02-181	Johnny Darter	2			D-02-181_310702_E1
D-02-181	Longnose Dace	10			D-02-181_310702_E1
D-02-181	River Darter	1			D-02-181_310702_E1
D-02-181	Western Blacknose Dace	3			D-02-181_310702_E1
D-02-181	White Sucker	4	100-103		D-02-181_310702_E1
D-02-182	Creek Chub	21			D-02-182_310702_E1
D-02-182	White Sucker	1	251		D-02-182_310702_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-183	Creek Chub	1			D-02-183_310702_E1
D-02-183	Longnose Dace	8			D-02-183_310702_E1
D-02-183	Western Blacknose Dace	3			D-02-183_310702_E1
D-02-183	White Sucker	4	38-41*	YOY	D-02-183_310702_E1
D-02-184	Blackside Darter	4			D-02-184_310702_E1
D-02-184	Creek Chub	4			D-02-184_310702_E1
D-02-184	Fathead Minnow	7			D-02-184_310702_E1
D-02-184	Longnose Dace	12			D-02-184_310702_E1
D-02-184	Western Blacknose Dace	15			D-02-184_310702_E1
D-02-184	White Sucker	5	72-83		D-02-184_310702_E1
D-02-185	Brook Stickleback	49			D-02-185_010802_E1
D-02-188	Brook Stickleback	41			D-02-188_010802_E1
D-02-188	Creek Chub	111			D-02-188_010802_E1
D-02-190	Brook Stickleback	1			D-02-190_010802_E1
D-02-190	Creek Chub	2			D-02-190_010802_E1
D-02-190	Emerald Shiner	4			D-02-190_010802_E1
D-02-190	Fathead Minnow	1			D-02-190_010802_E1
D-02-190	Finescale Dace	5			D-02-190_010802_E1
D-02-190	Johnny Darter	4			D-02-190_010802_E1
D-02-190	White Sucker	4	38-40*	YOY	D-02-190_010802_E1
D-02-191	Creek Chub	29		9 YOY	D-02-191_150802_E1
D-02-191	Johnny Darter	9		3 YOY	D-02-191_150802_E1
D-02-191	Longnose Dace	1			D-02-191_150802_E1
D-02-191	Western Blacknose Dace	31			D-02-191_150802_E1
D-02-191	White Sucker	2	90, 253		D-02-191_150802_E1
D-02-192	Blacknose Shiner	6			D-02-192_160802_E1
D-02-192	Brook Stickleback	4			D-02-192_160802_E1
D-02-192	Creek Chub	55	42	YOY	D-02-192_160802_E1
D-02-192	Johnny Darter	4			D-02-192_160802_E1
D-02-192	Longnose Dace	10			D-02-192_160802_E1
D-02-192	Western Blacknose Dace	30			D-02-192_160802_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-192	White Sucker	7	47-140		D-02-192_160802_E1
D-02-193	Bigmouth Buffalo	2		YOY	D-02-193_200802_E1
D-02-193	Brook Stickleback	2			D-02-193_200802_B1
D-02-193	Brook Stickleback	2			D-02-193_200802_E1
D-02-193	Central Mudminnow	4			D-02-193_200802_B1
D-02-193	Central Mudminnow	4			D-02-193_200802_E1
D-02-193	Common Carp	1		YOY	D-02-193_200802_B1
D-02-193	Common Carp	23		YOY	D-02-193_200802_E1
D-02-193	Emerald Shiner	2			D-02-193_200802_B1
D-02-193	Emerald Shiner	6			D-02-193_200802_E1
D-02-193	Northern Pike	1	204		D-02-193_200802_E1
D-02-193	Northern Pike	4	200-214		D-02-193_200802_B1
D-02-193	Sand Shiner	4			D-02-193_200802_E1
D-02-194	Bigmouth Buffalo	2		YOY	D-02-194_200802_E1
D-02-194	Brook Stickleback	1			D-02-194_200802_E1
D-02-194	Common Carp	66			D-02-194_200802_E1
D-02-194	Fathead Minnow	7			D-02-194_200802_E1
D-02-194	White Sucker	2	50, 56	YOY	D-02-194_200802_E1
D-02-195	Central Mudminnow	3			D-02-195_210802_E1
D-02-195	Emerald Shiner	1			D-02-195_210802_E1
D-02-195	Northern Pike	2	138-139	Immature	D-02-195_210802_E1
D-02-195	White Sucker	2	142-193	Immature	D-02-195_210802_E1
D-02-196	Blackside Darter	13			D-02-196_210802_E1
D-02-196	Central Mudminnow	7			D-02-196_210802_E1
D-02-196	Hornyhead Chub	6	5-9*	YOY	D-02-196_210802_E1
D-02-196	Iowa Darter	2			D-02-196_210802_E1
D-02-196	Johnny Darter	3			D-02-196_210802_E1
D-02-196	Longnose Dace	13		YOY	D-02-196_210802_E1
D-02-196	Silver Redhorse	1	40		D-02-196_210802_E1
D-02-196	White Sucker	2	38, 88		D-02-196_210802_E1
D-02-197	Blackside Darter	7			D-02-197_220802_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-02-197	Brook Stickleback	5			D-02-197_220802_E1
D-02-197	Central Mudminnow	3			D-02-197_220802_E1
D-02-197	Longnose Dace	10			D-02-197_220802_E1
D-02-197	Western Blacknose Dace	6			D-02-197_220802_E1
D-02-197	White Sucker	2	28-31*	YOY	D-02-197_220802_B1
D-02-197	White Sucker	2	220, 225		D-02-197_220802_B2
D-02-197	White Sucker	12	28*-195	4 YOY,28 mm, immature @ 195 mm	D-02-197_220802_E1
D-02-198	Fathead Minnow	5			D-02-198_220802_E1
D-02-198	Brook Stickleback	10			D-02-198_220802_E1
D-02-198	Central Mudminnow	4			D-02-198_220802_E1
D-02-198	Emerald Shiner	5			D-02-198_220802_E1
D-02-198	White Sucker	2	40-42	YOY	D-02-198_220802_E1
D-02-199	Blackside Darter	5			D-02-199_270802_E1
D-02-199	Central Mudminnow	5			D-02-199_270802_E1
D-02-199	Creek Chub	36	20*	YOY	D-02-199_270802_E1
D-02-199	Fathead Minnow	7			D-02-199_270802_E1
D-02-199	Johnny Darter	16	5*	YOY	D-02-199_270802_E1
D-02-199	Western Blacknose Dace	4			D-02-199_270802_E1
D-02-199	White Sucker	29	44-215	28 YOY	D-02-199_270802_E1
D-02-200	Blackside Darter	1			D-02-200_270802_E1
D-02-200	Creek Chub	22			D-02-200_270802_E1
D-02-200	Emerald Shiner	6			D-02-200_270802_E1
D-02-200	Fathead Minnow	7			D-02-200_270802_E1
D-02-200	Johnny Darter	8			D-02-200_270802_E1
D-02-200	River Darter	1			D-02-200_270802_E1
D-02-200	White Sucker	12	51-60	YOY	D-02-200_270802_E1
D-02-201	Northern Pike	1	170	Immature	D-02-201_081002_E1
B-03-001	Brook Stickleback	5			B-03-001_210503_E1
B-03-001	Finescale Dace	9			B-03-001_210503_E1
B-03-003	No Catch				B-03-003_230503_E1
B-03-004	No Catch				B-03-004_230503_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-005	Blackside Darter	2			B-03-005_230503_E1
B-03-005	Common Shiner	3			B-03-005_230503_E1
B-03-005	Creek Chub	2			B-03-005_230503_E1
B-03-005	Johnny Darter	8			B-03-005_230503_E1
B-03-005	Sand Shiner	2			B-03-005_230503_E1
B-03-005	Western Blacknose Dace	6			B-03-005_230503_E1
B-03-005	White Sucker	9	51*-116		B-03-005_230503_E1
B-03-007	Northern Pike	11	30-42*	YOY	B-03-007_260503_E1
B-03-009	Northern Pike	1	35*	YOY	B-03-009_260503_E1
B-03-012	No Catch				B-03-012_260503_E1
B-03-013	Brook Stickleback	24			B-03-013_270503_E1
B-03-013	Common Shiner	5			B-03-013_270503_E1
B-03-013	Creek Chub	3			B-03-013_270503_E1
B-03-013	Fathead Minnow	16			B-03-013_270503_E1
B-03-013	Johnny Darter	7			B-03-013_270503_E1
B-03-013	White Sucker	2	114, 116		B-03-013_270503_E1
B-03-015	Brook Stickleback	5			B-03-015_270503_E1
B-03-016	Brook Stickleback	4		Released	B-03-016_270503_E1
B-03-017	Brook Stickleback	50			B-03-017_280503_E1
B-03-017	Creek Chub	2			B-03-017_280503_E1
B-03-017	Fathead Minnow	63			B-03-017_280503_E1
B-03-017	Johnny Darter	1			B-03-017_280503_E1
B-03-017	White Sucker	4	94, 135, 136, 200	Released 1 @ 200 mm	B-03-017_280503_E1
B-03-019	Brook Stickleback	33			B-03-019_280503_B1
B-03-019	Fathead Minnow	4			B-03-019_280503_B1
B-03-020	Brook Stickleback	2		Released	B-03-020_290503_E1
B-03-026	Common Shiner	45		Released 1 @ 120 mm	B-03-026_290503_E1
B-03-026	Creek Chub	55			B-03-026_290503_E1
B-03-026	Fathead Minnow	9			B-03-026_290503_E1
B-03-026	Johnny Darter	5			B-03-026_290503_E1
B-03-026	White Sucker	3	116-122	Released 1 @ 120 mm	B-03-026_290503_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-028	Brook Stickleback	13			B-03-028_300503_E1
B-03-028	Fathead Minnow	6			B-03-028_300503_E1
B-03-028	White Sucker	3	115, 118, 300	Released mature female @ 300 mm	B-03-028_300503_E1
B-03-030	Fathead Minnow	173		Released an additional 150	B-03-030_300503_B1
B-03-030	Northern Pike	19	29-34*	All YOY, 6 released	B-03-030_300503_B1
B-03-031	No Catch				B-03-031_300503_E1
B-03-033	Brook Stickleback	1		Released	B-03-033_020603_E1
B-03-033	White Sucker	10	9-13*	Post-larval stage	B-03-033_020603_L1
B-03-035	Brook Stickleback	1			B-03-035_020603_B1
B-03-035	White Sucker	5	67-81		B-03-035_020603_B1
B-03-040	Brook Stickleback	1		Released	B-03-040_030603_E1
B-03-041	White Sucker	1	500	Released	B-03-041_030603_E1
B-03-041	Brook Stickleback	1		Released	B-03-041_030603_E1
B-03-048	No Catch				B-03-048_040603_B1
B-03-050	No Catch				B-03-050_040603_E1
B-03-052	Unidentified sucker	10	12-19*	Post-larval stage, recent hatch	B-03-052_040603_E1
B-03-053	Northern Pike	6	500-670	Released	B-03-053_050603_E1
B-03-055	No Catch				B-03-055_050603_E1
B-03-060	Brook Stickleback	1			B-03-060_050603_E1
B-03-060	Fathead Minnow	3			B-03-060_050603_E1
B-03-060	Northern Pike	1	326	Released, other Northern Pike observed, unable to collect	B-03-060_050603_E1
B-03-061	White Sucker	2	180, 200	Released	B-03-061_090603_E1
B-03-062	Brook Stickleback	2		Released	B-03-062_090603_E1
B-03-062	Fathead Minnow	22		Released 4 male and 14 female spawners	B-03-062_090603_E1
B-03-062	White Sucker	2	170, 200	Released	B-03-062_090603_E1
B-03-064	Black Bullhead	1	190*	Released	B-03-064_100603_E1
B-03-064	Creek Chub	27		Released 1 @ 140 mm	B-03-064_100603_E1
B-03-064	Fathead Minnow	11			B-03-064_100603_E1
B-03-064	Pearl Dace	1			B-03-064_100603_E1
B-03-064	Johnny Darter	1			B-03-064_100603_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-064	Sand Shiner	3			B-03-064_100603_E1
B-03-064	Western Blacknose Dace	24			B-03-064_100603_E1
B-03-064	White Sucker	1	65		B-03-064_100603_E1
B-03-065	Fathead Minnow	2		Released	B-03-065_100603_E1
B-03-067	No Catch				B-03-067_100603_E1
B-03-070	Brook Stickleback	34		Released 12	B-03-070_110603_E1
B-03-070	Fathead Minnow	2		Released	B-03-070_110603_E1
B-03-070	Iowa Darter	4			B-03-070_110603_E1
B-03-070	White Sucker	4	300, 330	Released 2 @ 400, 600 mm	B-03-070_110603_E1
B-03-071	No Catch				B-03-071_110603_E1
B-03-075	Brook Stickleback	6		Released	B-03-075_120603_E1
B-03-075	Fathead Minnow	2		Released	B-03-075_120603_E1
B-03-076	Common Shiner	11			B-03-076_120603_E1
B-03-076	Creek Chub	6		Released 1	B-03-076_120603_E1
B-03-076	Fathead Minnow	3			B-03-076_120603_E1
B-03-076	Iowa Darter	1			B-03-076_120603_E1
B-03-076	Johnny Darter	4			B-03-076_120603_E1
B-03-076	Western Blacknose Dace	6			B-03-076_120603_E1
B-03-076	White Sucker	9	23*-345	8 YOY, released 1 @ 345 mm	B-03-076_120603_E1
B-03-077	Creek Chub	17		Released 7	B-03-077_120603_E1
B-03-077	Fathead Minnow	2			B-03-077_120603_E1
B-03-077	Johnny Darter	3			B-03-077_120603_E1
B-03-077	Western Blacknose Dace	55			B-03-077_120603_E1
B-03-077	White Sucker	13	31*-120	Released 3 @ 90, 95, 120 mm, 3 are YOY	B-03-077_120603_E1
B-03-083	Brook Stickleback	155		Released an additional 100	B-03-083_160603_E1
B-03-083	Fathead Minnow	104			B-03-083_160603_E1
B-03-084	Brook Stickleback	10			B-03-084_160603_E1
B-03-084	Fathead Minnow	10			B-03-084_160603_E1
B-03-085	Black Bullhead	12		Released 10	B-03-085_170603_E1
B-03-085	Northern Pike	1	130	Released	B-03-085_170603_E1
B-03-085	Brook Stickleback	16		Released 10	B-03-085_170603_E1

Appendix 5: List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-085	Central Mudminnow	2			B-03-085_170603_E1
B-03-085	Creek Chub	1			B-03-085_170603_E1
B-03-085	Fathead Minnow	33			B-03-085_170603_E1
B-03-086	No Catch				B-03-086_170603_B1
B-03-087	Fathead Minnow	35			B-03-087_170603_B1
B-03-087	Northern Pike	2	460, 640	Released	B-03-087_170603_B1
B-03-087	Sand Shiner	27			B-03-087_170603_B1
B-03-087	White Sucker	123	29-34*	All YOY	B-03-087_170603_B1
B-03-088	Sand Shiner	6			B-03-088_180603_E1
B-03-088	White Sucker	1	25*	YOY	B-03-088_180603_E1
B-03-089	Fathead Minnow	18			B-03-089_180603_B1
B-03-089	Sand Shiner	3			B-03-089_180603_B1
B-03-091	Black Bullhead	1	160*	Released	B-03-091_180603_B1
B-03-091	Fathead Minnow	2		Released	B-03-091_180603_B1
B-03-093	Brook Stickleback	1			B-03-093_180603_B1
B-03-093	Fathead Minnow	10		Released 8	B-03-093_180603_B1
B-03-093	Unidentified minnow	8	15-18*	Post-larval stage	B-03-093_180603_B1
B-03-093	White Sucker	1	20*	YOY	B-03-093_180603_B1
B-03-094	Fathead Minnow	1			B-03-094_180603_B1
B-03-094	Northern Pike	3	110, 116, 130	Released	B-03-094_180603_B1
B-03-094	Silver Redhorse	25	21-30*	YOY	B-03-094_180603_B1
B-03-094	Longnose Dace	6		Released	B-03-094_180603_E1
B-03-094	White Sucker	1	330	Released	B-03-094_180603_E1
B-03-095	Brook Stickleback	20		Released 6	B-03-095_190603_E1
B-03-095	Silver Redhorse	1	27*	YOY	B-03-095_190603_E1
B-03-097	Brook Stickleback	13			B-03-097_190603_B1
B-03-097	Fathead Minnow	37			B-03-097_190603_B1
B-03-098	Creek Chub	1			B-03-098_190603_E1
B-03-098	Troutperch	2			B-03-098_190603_E1
B-03-098	Western Blacknose Dace	6		Released	B-03-098_190603_E1
B-03-098	White Sucker	1	111		B-03-098_190603_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-099	Troutperch	2			B-03-099_200603_E1
B-03-101	Burbot	1	222*		B-03-101_200603_B1
B-03-101	Fathead Minnow	6		Released	B-03-101_200603_B1
B-03-102	Northern Pike	1	220	Released	B-03-102_230603_B1
B-03-102	White Sucker	1	420	Released	B-03-102_230603_B1
B-03-103	Blackside Darter	2			B-03-103_230603_E1
B-03-103	Western Blacknose Dace	2			B-03-103_230603_E1
B-03-103	White Sucker	4	80-92	Released	B-03-103_230603_E1
B-03-104	Brook Stickleback	2			B-03-104_230603_E1
B-03-104	Fathead Minnow	5			B-03-104_230603_E1
B-03-104	Finescale Dace	2			B-03-104_230603_E1
B-03-104	Johnny Darter	1			B-03-104_230603_E1
B-03-104	Western Blacknose Dace	5			B-03-104_230603_E1
B-03-112	White Sucker	1	110	Released	B-03-112_260603_E1
B-03-115	Finescale Dace	1			B-03-115_270603_E1
B-03-115	Pearl Dace	18			B-03-115_270603_E1
B-03-115	Western Blacknose Dace	6			B-03-115_270603_E1
B-03-115	White Sucker	1	160	Released	B-03-115_270603_E1
B-03-116	Fathead Minnow	4	70-75	Released 2	B-03-116_270603_E1
B-03-116	Pearl Dace	2			B-03-116_270603_E1
B-03-116	Western Blacknose Dace	8			B-03-116_270603_E1
B-03-116	White Sucker	2	110, 130	Released	B-03-116_270603_E1
B-03-117	Brook Stickleback	1		Released	B-03-117_270603_E1
B-03-118	Brook Stickleback	6			B-03-118_270603_E1
B-03-118	Central Mudminnow	6			B-03-118_270603_E1
B-03-118	Finescale Dace	8			B-03-118_270603_E1
B-03-118	White Sucker	2	21, 26*	YOY	B-03-118_270603_E1
B-03-119	Central Mudminnow	2		Released	B-03-119_020703_E1
B-03-120	Central Mudminnow	9			B-03-120_020703_E1
B-03-120	Northern Pike	3	88	YOY, released 1 immature Northern Pike	B-03-120_020703_E1
B-03-120	Western Blacknose Dace	1			B-03-120_020703_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-120	White Sucker	2	105	Released 1	B-03-120_020703_E1
B-03-121	Iowa Darter	1			B-03-121_030703_E1
B-03-122	Blackside Darter	2			B-03-122_030703_E1
B-03-122	Brook Stickleback	6			B-03-122_030703_E1
B-03-122	Central Mudminnow	5		Released	B-03-122_030703_E1
B-03-122	Fathead Minnow	3			B-03-122_030703_E1
B-03-122	Johnny Darter	4			B-03-122_030703_E1
B-03-122	Sand Shiner	42			B-03-122_030703_E1
B-03-122	Western Blacknose Dace	1			B-03-122_030703_E1
B-03-122	White Sucker	16	29*-175	14 YOY, 2 juvenile	B-03-122_030703_E1
B-03-124	Central Mudminnow	1			B-03-124_030703_E1
B-03-124	Johnny Darter	4			B-03-124_030703_E1
B-03-124	Western Blacknose Dace	8			B-03-124_030703_E1
B-03-124	White Sucker	2	24, 26*	YOY	B-03-124_030703_E1
B-03-126	Creek Chub	27		YOY	B-03-126_040703_B1
B-03-128	Fathead Minnow	7		Released	B-03-128_040703_D1
B-03-132	Brook Trout	1	170	Released	B-03-132_070703_E1
B-03-132	Creek Chub	7			B-03-132_070703_E1
B-03-132	Johnny Darter	3			B-03-132_070703_E1
B-03-132	Pearl Dace	3			B-03-132_070703_E1
B-03-132	White Sucker		95, 120	Released	B-03-132_070703_E1
B-03-132	Western Blacknose Dace	31			B-03-132_070703_E1
B-03-134	Brook Trout	3	130-145	Released	B-03-134_070703_E1
B-03-134	White Sucker	2	150, 210	Released 1	B-03-134_070703_E1
B-03-136	Brook Stickleback	6			B-03-136_070703_E1
B-03-136	Sand Shiner	3			B-03-136_070703_E1
B-03-136	White Sucker	150	19-27*	YOY	B-03-136_070703_E1
B-03-141	Brook Stickleback	17		Released	B-03-141_080703_E1
B-03-142	Brook Stickleback	5			B-03-142_080703_E1
B-03-142	Unidentified minnow	9		Post-larval shiners	B-03-142_080703_E1
B-03-143	Brook Stickleback	2			B-03-143_080703_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-143	Common Shiner	124		Released 80	B-03-143_080703_B1
B-03-143	Creek Chub	40		Released	B-03-143_080703_B1
B-03-143	Fathead Minnow	24		Released 20	B-03-143_080703_B1
B-03-143	Unidentified minnow	65		Post-larval dace	B-03-143_080703_B1
B-03-143	White Sucker	23	140-210	Released 20	B-03-143_080703_B1
B-03-145	No Catch				B-03-145_090703_B1
B-03-148	No Catch				B-03-148_090703_E1
B-03-150	Creek Chub	2			B-03-150_090703_B1
B-03-150	Brook Stickleback	2			B-03-150_090703_B1
B-03-150	Fathead Minnow	25			B-03-150_090703_B1
B-03-150	Finescale Dace	2			B-03-150_090703_B1
B-03-151	Blackside Darter	1			B-03-151_100703_E1
B-03-151	Burbot	1			B-03-151_100703_E1
B-03-151	Common Shiner	1		Released	B-03-151_100703_K1
B-03-151	Common Shiner	6			B-03-151_100703_E1
B-03-151	Creek Chub	7		Released 4 male and 14 female spawners	B-03-151_100703_E1
B-03-151	Johnny Darter	1			B-03-151_100703_E1
B-03-151	Longnose Dace	3		Released	B-03-151_100703_K1
B-03-151	Longnose Dace	6		Released 3 @ 90, 95, 120 mm, 3 are YOY	B-03-151_100703_E1
B-03-151	Pearl Dace	3			B-03-151_100703_E1
B-03-151	Sand Shiner	7			B-03-151_100703_E1
B-03-151	Western Blacknose Dace	23			B-03-151_100703_E1
B-03-151	White Sucker	1	70		B-03-151_100703_E1
B-03-152	Common Shiner	1			B-03-152_100703_E1
B-03-152	Creek Chub	16		Released 2	B-03-152_100703_E1
B-03-152	Johnny Darter	4			B-03-152_100703_E1
B-03-152	Sand Shiner	3			B-03-152_100703_E1
B-03-152	Western Blacknose Dace	12			B-03-152_100703_E1
B-03-152	White Sucker	3	25*, 145, 210	1 YOY, also released 2 others	B-03-152_100703_E1
B-03-156	Fathead Minnow			Observed in standing pools	B-03-156_110703_O1
B-03-157	Fathead Minnow			Observed in standing pools	B-03-157_110703_O1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-158	Brook Stickleback	11			B-03-158_110703_B1
B-03-158	Common Shiner	1		Released	B-03-158_110703_B1
B-03-158	Fathead Minnow	49		Released 40	B-03-158_110703_B1
B-03-158	Pearl Dace	29			B-03-158_110703_B1
B-03-158	White Sucker	10	111-200	Released 9	B-03-158_110703_B1
B-03-159	Creek Chub	4			B-03-159_110703_E1
B-03-159	Silver Redhorse	24	21-27*	YOY	B-03-159_110703_E1
B-03-160	Brook Stickleback	15			B-03-160_110703_B1
B-03-160	Creek Chub	1		Released	B-03-160_110703_B1
B-03-160	Fathead Minnow	50		Released	B-03-160_110703_B1
B-03-163	Emerald Shiner	6			B-03-163_140703_B1
B-03-163	Spottail Shiner	6			B-03-163_140703_B1
B-03-163	Yellow Perch	1	115	Released	B-03-163_140703_B1
B-03-181	Creek Chub	25		23 YOY	B-03-181_150703_E1
B-03-181	Johnny Darter	5			B-03-181_150703_E1
B-03-181	Western Blacknose Dace	4			B-03-181_150703_E1
B-03-181	White Sucker	1	28*	YOY	B-03-181_150703_E1
B-03-182	Sand Shiner	1			B-03-182_160703_E1
B-03-182	Unidentified minnow	4		Post-larval dace	B-03-182_160703_E1
B-03-183	Central Mudminnow	1			B-03-183_160703_B1
B-03-183	Fathead Minnow	22			B-03-183_160703_B1
B-03-183	Northern Pike	1	160	Released	B-03-183_160703_B1
B-03-183	Rock Bass	1	22*	YOY	B-03-183_160703_B1
B-03-183	Walleye	2	67, 325	Released 1, 1 YOY	B-03-183_160703_B1
B-03-184	Fathead Minnow	8			B-03-184_160703_E1
B-03-185	Blackside Darter	3			B-03-185_160703_E1
B-03-185	Johnny Darter	1			B-03-185_160703_E1
B-03-185	Silver Redhorse	4	200-220	Released	B-03-185_160703_E1
B-03-189	Black Bullhead	1	170	Released	B-03-189_160703_B1
B-03-189	Fathead Minnow	19			B-03-189_160703_B1
B-03-189	Northern Pike	3	90, 270, 285	Released	B-03-189_160703_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-03-189	White Sucker	18	34-44*	YOY	B-03-189_160703_B1
B-03-190	Fathead Minnow	13			B-03-190_160703_B1
B-03-190	Johnny Darter	1			B-03-190_160703_B1
B-03-190	White Sucker	65	40-51*	YOY	B-03-190_160703_B1
B-03-191	Brook Stickleback	7			B-03-191_170703_E1
B-03-191	Central Mudminnow	20		Released 17	B-03-191_170703_E1
B-03-191	Sand Shiner	7			B-03-191_170703_E1
B-03-191	White Sucker	2	108, 110	YOY released	B-03-191_170703_E1
B-03-192	Brook Stickleback	1		Released	B-03-192_170703_B1
B-03-192	Fathead Minnow	9		Released	B-03-192_170703_B1
B-03-192	White Sucker	1	190	Released	B-03-192_170703_B1
B-03-193	No Catch				B-03-193_170703_B1
B-03-194	Black Bullhead	57		Released 50 YOY	B-03-194_220703_B1
B-03-194	Fathead Minnow	307		Released 200	B-03-194_220703_B1
B-03-199	No Catch				B-03-199_230703_E1
B-03-200	Black Bullhead	13	145-200	Released 12	B-03-200_230703_B1
B-03-200	Black Crappie	3	133, 165, 180	Released	B-03-200_230703_B1
B-03-200	Sand Shiner	4			B-03-200_230703_B1
B-03-200	Northern Pike	5	350-405	Released	B-03-200_230703_B1
B-03-200	River Darter	1			B-03-200_230703_B1
B-03-200	Sauger	1	310	Released mature Sauger @ 310 mm	B-03-200_230703_B1
B-03-202	Black Bullhead	1		Released	B-03-202_230703_E1
B-03-202	Brook Stickleback	9			B-03-202_230703_E1
B-03-202	Fathead Minnow	21			B-03-202_230703_E1
B-03-202	Northern Redbelly Dace	30			B-03-202_230703_E1
B-03-204	Brook Stickleback	265		Released	B-03-204_230703_B1
B-03-204	Central Mudminnow	2		Released	B-03-204_230703_B1
B-03-204	Fathead Minnow	2		Released	B-03-204_230703_B1
B-03-204	White Sucker	1	46*	YOY	B-03-204_230703_B1
B-03-206	Brook Stickleback	1		Released	B-03-206_240703_E1
B-03-206	Central Mudminnow	23			B-03-206_240703_E1

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B-03-206	Northern Pike	2	140, 155	Released	B-03-206_240703_E1
B-03-206	Walleye	2	108, 114	YOY	B-03-206_240703_E1
B-03-206	White Sucker	11	42-49*	Released 9 YOY	B-03-206_240703_E1
B-03-207	Brook Stickleback	12		Released 8	B-03-207_240703_E1
B-03-207	Central Mudminnow	4		Released 3	B-03-207_240703_E1
B-03-207	Fathead Minnow	54		Released 43	B-03-207_240703_E1
B-03-207	Northern Redbelly Dace	40			B-03-207_240703_E1
B-03-207	White Sucker	1	135	Released	B-03-207_240703_E1
B-03-209	Brook Stickleback	25		Released	B-03-209_240703_B1
B-03-209	Fathead Minnow	11		Released	B-03-209_240703_B1
B-03-209	White Sucker	24		YOY released	B-03-209_240703_B1
B-03-212	Central Mudminnow	4		Released	B-03-212_240703_E1
B-03-212	Fathead Minnow	3		Released	B-03-212_240703_E1
B-03-212	Northern Pike	6	150-350	Released	B-03-212_240703_E1
B-03-218	Northern Pike	1	210	Released	B-03-218_250703_D1
B-03-218	Fathead Minnow	7		Released	B-03-218_250703_D1
B-03-224	Brook Stickleback	39			B-03-224_050803_E1
B-03-224	Central Mudminnow	7			B-03-224_050803_E1
B-03-224	Fathead Minnow	36			B-03-224_050803_E1
B-03-224	Finescale Dace	8			B-03-224_050803_E1
B-03-224	Northern Redbelly Dace	8			B-03-224_050803_E1
B-03-224	Yellow Perch	1	120		B-03-224_050803_E1
B-03-226	Brook Stickleback	1			B-03-226_060803_E1
B-03-226	Brook Stickleback	6			B-03-226_060803_B1
B-03-226	Common Carp	1			B-03-226_060803_B1
B-03-226	Common Carp	1			B-03-226_060803_E1
B-03-226	Fathead Minnow	2			B-03-226_060803_E1
B-03-226	Yellow Perch	3	42, 52, 58		B-03-226_060803_B1
B-03-226	Yellow Perch	3		Released	B-03-226_060803_E1
B-03-229	Brook Stickleback	100			B-03-229_060803_D1
B-03-229	Fathead Minnow	100			B-03-229_060803_D1

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B-03-229	Western Blacknose Dace	10			B-03-229_060803_D1
B-03-235	Brook Stickleback	25			B-03-235_060803_E1
B-03-235	Central Mudminnow	9			B-03-235_060803_E1
B-03-235	Fathead Minnow	7			B-03-235_060803_E1
B-03-235	Finescale Dace	5			B-03-235_060803_E1
B-03-239	Brook Stickleback	9		Many released	B-03-239_070803_B1
B-03-239	Common Carp	6			B-03-239_070803_B1
B-03-239	Emerald Shiner	4		Many released	B-03-239_070803_B1
B-03-239	Fathead Minnow	114		Many released	B-03-239_070803_B1
B-03-239	Northern Pike	1	141		B-03-239_070803_B1
B-03-239	Spottail Shiner	4			B-03-239_070803_B1
B-03-239	Yellow Perch	2	85, 122		B-03-239_070803_B1
B-03-241	Common Carp	8			B-03-241_070803_E1
B-03-241	Creek Chub	3			B-03-241_070803_E1
B-03-241	Northern Pike	2		YOY, several others observed	B-03-241_070803_E1
B-03-249	Fathead Minnow	64			B-03-249_080803_B1
D-03-002	No Catch			Invertebrates only	D-03-002_100503_K1
D-03-002	Blacknose Shiner	5			D-03-002_100503_E1
D-03-002	Brook Stickleback	5			D-03-002_100503_E1
D-03-002	Johnny Darter	11			D-03-002_100503_E1
D-03-002	Western Blacknose Dace	6			D-03-002_100503_E1
D-03-003	Brook Stickleback	4		Spawning	D-03-003_100503_E1
D-03-003	Finescale Dace	4			D-03-003_100503_E1
D-03-003	Pearl Dace	23			D-03-003_100503_E1
D-03-004	Blacknose Shiner	6			D-03-004_110503_E1
D-03-004	Brook Stickleback	2			D-03-004_110503_E1
D-03-004	Creek Chub	1			D-03-004_110503_E1
D-03-004	Fathead Minnow	3			D-03-004_110503_E1
D-03-004	Finescale Dace	3			D-03-004_110503_E1
D-03-004	Johnny Darter	3			D-03-004_110503_E1
D-03-004	Pearl Dace	6			D-03-004_110503_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-004	Western Blacknose Dace	10			D-03-004_110503_E1
D-03-005	Blacknose Shiner	5			D-03-005_110503_E1
D-03-005	Common Shiner	17			D-03-005_110503_E1
D-03-005	Creek Chub	9		Released 5	D-03-005_110503_E1
D-03-005	Fathead Minnow	1			D-03-005_110503_E1
D-03-005	Finescale Dace	3			D-03-005_110503_E1
D-03-005	Johnny Darter	7			D-03-005_110503_E1
D-03-005	Longnose Dace	4			D-03-005_110503_E1
D-03-005	Western Blacknose Dace	20			D-03-005_110503_E1
D-03-005	White Sucker	2	91, 112		D-03-005_110503_E1
D-03-006	Brook Stickleback	7			D-03-006_120503_E1
D-03-006	Creek Chub	1			D-03-006_120503_E1
D-03-009	Brook Stickleback	20		Released	D-03-009_130503_E1
D-03-011	Brook Trout	1	132		D-03-011_130503_E1
D-03-011	Common Shiner	11			D-03-011_130503_E1
D-03-011	Creek Chub	1			D-03-011_130503_E1
D-03-011	Longnose Dace	3			D-03-011_130503_E1
D-03-011	Western Blacknose Dace	1			D-03-011_130503_E1
D-03-011	White Sucker	10	51-161		D-03-011_130503_E1
D-03-011	No Catch			Invertebrates only	D-03-011_130503_K1
D-03-012	Blacknose Shiner	3			D-03-012_130503_E1
D-03-012	Creek Chub	1			D-03-012_130503_E1
D-03-012	Iowa Darter	1			D-03-012_130503_E1
D-03-012	Johnny Darter	9			D-03-012_130503_E1
D-03-012	Longnose Dace	15			D-03-012_130503_E1
D-03-012	Pearl Dace	11			D-03-012_130503_E1
D-03-012	Western Blacknose Dace	19			D-03-012_130503_E1
D-03-012	White Sucker	1	76		D-03-012_130503_E1
D-03-015	Brook Stickleback	6			D-03-015_140503_E1
D-03-015	Central Mudminnow	6			D-03-015_140503_E1
D-03-015	Creek Chub	3			D-03-015_140503_E1

Appendix 5: List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-015	Finescale Dace	5			D-03-015_140503_E1
D-03-015	Johnny Darter	6			D-03-015_140503_E1
D-03-015	Longnose Dace	6			D-03-015_140503_E1
D-03-015	Western Blacknose Dace	9			D-03-015_140503_E1
D-03-015	White Sucker	10	45-320		D-03-015_140503_E1
D-03-016	Finescale Dace	4			D-03-016_140503_E1
D-03-016	Longnose Dace	11			D-03-016_140503_E1
D-03-016	Western Blacknose Dace	28			D-03-016_140503_E1
D-03-017	No Catch				D-03-017_140503_E1
D-03-019	Blacknose Shiner	3			D-03-019_140503_E1
D-03-019	Finescale Dace	1			D-03-019_140503_E1
D-03-019	White Sucker	9	30*-96		D-03-019_140503_E1
D-03-023	Brook Stickleback	1			D-03-023_030603_E1
D-03-023	Fathead Minnow	10		Spawning	D-03-023_030603_E1
D-03-024	Brook Stickleback	24			D-03-024_030603_B1
D-03-024	Fathead Minnow	309			D-03-024_030603_B1
D-03-025	Brook Stickleback	12			D-03-025_030603_E1
D-03-025	Central Mudminnow	1			D-03-025_030603_E1
D-03-025	Fathead Minnow	2			D-03-025_030603_E1
D-03-027	Brook Stickleback	105		Released	D-03-027_040603_B1
D-03-027	Fathead Minnow	200		Released	D-03-027_040603_B1
D-03-029	Brook Stickleback	6			D-03-029_040603_E1
D-03-029	Fathead Minnow	26		Spawning	D-03-029_040603_E1
D-03-035	Brook Stickleback	7			D-03-035_050603_E1
D-03-035	Brook Stickleback	24		Released	D-03-035_050603_B1
D-03-035	Creek Chub	3		Released	D-03-035_050603_B1
D-03-035	Fathead Minnow	26		Spawning	D-03-035_050603_E1
D-03-035	Fathead Minnow	100		Released	D-03-035_050603_B1
D-03-036	Bigmouth Shiner	3			D-03-036_050603_E1
D-03-036	Blackside Darter	1			D-03-036_050603_E1
D-03-036	Common Shiner	11			D-03-036_050603_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-036	Creek Chub	2			D-03-036_050603_E1
D-03-036	Fathead Minnow	29			D-03-036_050603_E1
D-03-036	Johnny Darter	1			D-03-036_050603_E1
D-03-036	Longnose Dace	2			D-03-036_050603_E1
D-03-036	Sand Shiner	75			D-03-036_050603_E1
D-03-036	Silver Redhorse	8	61-264	7 YOY, 61–69 mm	D-03-036_050603_E1
D-03-036	Western Blacknose Dace	5			D-03-036_050603_E1
D-03-037	Brook Stickleback	8			D-03-037_050603_E1
D-03-037	Creek Chub	3			D-03-037_050603_E1
D-03-037	Fathead Minnow	4			D-03-037_050603_E1
D-03-037	Western Blacknose Dace	3			D-03-037_050603_E1
D-03-038	Blackside Darter	20			D-03-038_060603_E1
D-03-038	Brook Stickleback	1			D-03-038_060603_E1
D-03-038	Burbot	1			D-03-038_060603_E1
D-03-038	Common Carp	10		Released	D-03-038_060603_E1
D-03-038	Common Shiner	10			D-03-038_060603_E1
D-03-038	Creek Chub	1			D-03-038_060603_E1
D-03-038	Emerald Shiner	22			D-03-038_060603_E1
D-03-038	Fathead Minnow	6			D-03-038_060603_E1
D-03-038	Iowa Darter	1			D-03-038_060603_E1
D-03-038	Johnny Darter	6			D-03-038_060603_E1
D-03-038	Longnose Dace	6			D-03-038_060603_E1
D-03-038	Silver Redhorse	3	111-136		D-03-038_060603_E1
D-03-038	Walleye	1	280	Mature, released	D-03-038_060603_E1
D-03-038	Western Blacknose Dace	2			D-03-038_060603_E1
D-03-038	White Sucker	1	176		D-03-038_060603_E1
D-03-040	Black Bullhead	1	250*		D-03-040_100603_E1
D-03-041	Fathead Minnow	23			D-03-041_100603_E1
D-03-044	Black Bullhead	1			D-03-044_110603_E1
D-03-044	Fathead Minnow	25		Spawning	D-03-044_110603_E1
D-03-044	White Sucker	3	68-108		D-03-044_110603_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-045	No Catch				D-03-045_110603_E1
D-03-047	Black Bullhead	3	110-120		D-03-047_110603_E1
D-03-049	No Catch				D-03-049_110603_E1
D-03-054	Brook Stickleback	49		Released	D-03-054_130603_E2
D-03-054	Creek Chub	16			D-03-054_130603_E1
D-03-054	Finescale Dace	16			D-03-054_130603_E1
D-03-054	Johnny Darter	7			D-03-054_130603_E1
D-03-054	Pearl Dace	3			D-03-054_130603_E1
D-03-054	Western Blacknose Dace	20			D-03-054_130603_E1
D-03-054	White Sucker	1	44	YOY	D-03-054_130603_E2
D-03-054	White Sucker	2	102, 172		D-03-054_130603_E1
D-03-057	Fathead Minnow	20			D-03-057_130603_E1
D-03-057	Finescale Dace	1			D-03-057_130603_E1
D-03-057	White Sucker	2	21*, 220	1 YOY	D-03-057_130603_E1
D-03-058	Common Shiner	15			D-03-058_160603_E1
D-03-058	Fathead Minnow	2			D-03-058_160603_E1
D-03-058	Iowa Darter	6			D-03-058_160603_E1
D-03-058	Johnny Darter	4			D-03-058_160603_E1
D-03-058	Logperch	5			D-03-058_160603_E1
D-03-058	Longnose Dace	6			D-03-058_160603_E1
D-03-058	Western Blacknose Dace	3			D-03-058_160603_E1
D-03-059	Common Shiner	14			D-03-059_160603_E1
D-03-059	Johnny Darter	2			D-03-059_160603_E1
D-03-059	Logperch	4			D-03-059_160603_E1
D-03-059	Longnose Dace	6			D-03-059_160603_E1
D-03-059	Pearl Dace	2			D-03-059_160603_E1
D-03-059	Western Blacknose Dace	11			D-03-059_160603_E1
D-03-060	Common Shiner	32			D-03-060_160603_E1
D-03-060	Fathead Minnow	3			D-03-060_160603_E1
D-03-060	Johnny Darter	4			D-03-060_160603_E1
D-03-060	Western Blacknose Dace	3			D-03-060_160603_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-060	White Sucker	6	175-199	Released 2	D-03-060_160603_E1
D-03-061	Blacknose Shiner	3			D-03-061_170603_E1
D-03-061	Brassy Minnow	2			D-03-061_170603_E2
D-03-061	Brook Stickleback	3			D-03-061_170603_E2
D-03-061	Brook Stickleback	8			D-03-061_170603_E1
D-03-061	Common Shiner	4			D-03-061_170603_E2
D-03-061	Common Shiner	11			D-03-061_170603_E1
D-03-061	Creek Chub	6			D-03-061_170603_E2
D-03-061	Creek Chub	10			D-03-061_170603_E1
D-03-061	Fathead Minnow	4			D-03-061_170603_E1
D-03-061	Finescale Dace	6			D-03-061_170603_E1
D-03-061	Johnny Darter	2			D-03-061_170603_E2
D-03-061	Pearl Dace	1			D-03-061_170603_E1
D-03-061	Silver Redhorse	3	24-26*	YOY	D-03-061_170603_E1
D-03-061	Western Blacknose Dace	7			D-03-061_170603_E1
D-03-061	White Sucker	3	58, 83,160		D-03-061_170603_E1
D-03-061	White Sucker	4	80-120		D-03-061_170603_E2
D-03-062	Common Shiner	6			D-03-062_170603_E1
D-03-062	Creek Chub	2			D-03-062_170603_E1
D-03-062	Pearl Dace	2			D-03-062_170603_E1
D-03-062	Western Blacknose Dace	19			D-03-062_170603_E1
D-03-062	White Sucker	1	22*	YOY	D-03-062_170603_E1
D-03-064	Brook Stickleback	15			D-03-064_170603_B1
D-03-064	Common Shiner	14			D-03-064_170603_B1
D-03-064	Creek Chub	2			D-03-064_170603_B1
D-03-064	Fathead Minnow	3			D-03-064_170603_B1
D-03-064	Finescale Dace	9			D-03-064_170603_B1
D-03-064	Pearl Dace	1			D-03-064_170603_B1
D-03-064	Western Blacknose Dace	3			D-03-064_170603_B1
D-03-065	Blacknose Shiner	12			D-03-065_170603_B1
D-03-065	Brassy Minnow	5			D-03-065_170603_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-065	Brook Stickleback	2			D-03-065_170603_B1
D-03-065	Common Shiner	83			D-03-065_170603_B1
D-03-065	Creek Chub	7			D-03-065_170603_B1
D-03-065	Fathead Minnow	4			D-03-065_170603_B1
D-03-065	Finescale Dace	1			D-03-065_170603_B1
D-03-065	Longnose Dace	2			D-03-065_170603_B1
D-03-065	Northern Redbelly Dace	6			D-03-065_170603_B1
D-03-065	Pearl Dace	1			D-03-065_170603_B1
D-03-065	Western Blacknose Dace	3			D-03-065_170603_B1
D-03-065	White Sucker	29	25*-200	25 YOY	D-03-065_170603_B1
D-03-066	Blacknose Shiner	11			D-03-066_180603_E1
D-03-066	Brook Stickleback	5			D-03-066_180603_E1
D-03-066	Finescale Dace	2			D-03-066_180603_E1
D-03-067	Blacknose Shiner	2			D-03-067_180603_E1
D-03-067	Brassy Minnow	60			D-03-067_180603_E1
D-03-067	Brook Stickleback	1			D-03-067_180603_E1
D-03-067	Creek Chub	9			D-03-067_180603_E1
D-03-067	Fathead Minnow	48			D-03-067_180603_E1
D-03-067	Finescale Dace	18			D-03-067_180603_E1
D-03-067	Iowa Darter	1			D-03-067_180603_E1
D-03-067	Northern Redbelly Dace	15			D-03-067_180603_E1
D-03-067	Pearl Dace	1			D-03-067_180603_E1
D-03-067	Western Blacknose Dace	36			D-03-067_180603_E1
D-03-067	White Sucker	1	112		D-03-067_180603_E1
D-03-071	Common Shiner	45			D-03-071_230603_B1
D-03-071	Northern Pike	1	116	YOY	D-03-071_230603_B1
D-03-071	White Sucker	1	32*	YOY	D-03-071_230603_B1
D-03-073	Blacknose Shiner	2			D-03-073_230603_E1
D-03-073	Brassy Minnow	2			D-03-073_230603_E1
D-03-073	Brook Stickleback	1			D-03-073_230603_E1
D-03-073	Creek Chub	1			D-03-073_230603_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-073	Fathead Minnow	9			D-03-073_230603_E1
D-03-073	Finescale Dace	36			D-03-073_230603_E1
D-03-073	Johnny Darter	1			D-03-073_230603_E1
D-03-073	Pearl Dace	1			D-03-073_230603_E1
D-03-073	Western Blacknose Dace	2			D-03-073_230603_E1
D-03-073	White Sucker	13	76-102		D-03-073_230603_E1
D-03-075	No Catch				D-03-075_230603_E1
D-03-076	Fathead Minnow	4		Released	D-03-076_230603_E1
D-03-076	Northern Pike	2	166, 172	Released	D-03-076_230603_E1
D-03-076	Brook Stickleback	3		Released	D-03-076_230603_E1
D-03-078	Brook Stickleback	100		Released	D-03-078_240603_B1
D-03-078	Fathead Minnow	100		Released	D-03-078_240603_B1
D-03-078	Finescale Dace	1		Released	D-03-078_240603_B1
D-03-081	Blacknose Shiner	1			D-03-081_240603_E1
D-03-081	Common Shiner	10			D-03-081_240603_E1
D-03-081	Creek Chub	1			D-03-081_240603_E1
D-03-081	Fathead Minnow	4			D-03-081_240603_E1
D-03-081	Finescale Dace	5			D-03-081_240603_E1
D-03-081	Johnny Darter	1			D-03-081_240603_E1
D-03-081	Longnose Dace	3			D-03-081_240603_E1
D-03-081	Western Blacknose Dace	7			D-03-081_240603_E1
D-03-083	Northern Pike	1	300	Released	D-03-083_260603_E1
D-03-083	Western Blacknose Dace	2		Released	D-03-083_260603_E1
D-03-083	White Sucker	1	220		D-03-083_260603_E1
D-03-084	Brook Stickleback	27			D-03-084_260603_E1
D-03-084	Fathead Minnow	127			D-03-084_260603_E1
D-03-085	White Sucker	10			D-03-085_270603_E1
D-03-086	Brook Stickleback	32			D-03-086_270603_E1
D-03-086	Creek Chub	5			D-03-086_270603_E1
D-03-086	Fathead Minnow	53			D-03-086_270603_E1
D-03-086	Finescale Dace	21			D-03-086_270603_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-086	Johnny Darter	3			D-03-086_270603_E1
D-03-086	Northern Redbelly Dace	2			D-03-086_270603_E1
D-03-086	Pearl Dace	1			D-03-086_270603_E1
D-03-086	Silver Redhorse	1	26*	YOY	D-03-086_270603_E1
D-03-086	Western Blacknose Dace	15			D-03-086_270603_E1
D-03-086	White Sucker	1	171		D-03-086_270603_E1
D-03-088	Brassy Minnow	1			D-03-088_020703_E1
D-03-088	Common Shiner	33			D-03-088_020703_E1
D-03-088	Creek Chub	5			D-03-088_020703_E1
D-03-088	Fathead Minnow	3			D-03-088_020703_E1
D-03-088	Iowa Darter	1			D-03-088_020703_E1
D-03-088	Johnny Darter	16			D-03-088_020703_E1
D-03-088	Longnose Dace	9			D-03-088_020703_E1
D-03-088	Western Blacknose Dace	18			D-03-088_020703_E1
D-03-088	White Sucker	2	107, 114		D-03-088_020703_E1
D-03-089	Common Shiner	12			D-03-089_020703_E1
D-03-089	Creek Chub	10			D-03-089_020703_E1
D-03-089	Fathead Minnow	24			D-03-089_020703_E1
D-03-089	Finescale Dace	3			D-03-089_020703_E1
D-03-089	Johnny Darter	18			D-03-089_020703_E1
D-03-089	Northern Redbelly Dace	4			D-03-089_020703_E1
D-03-089	Western Blacknose Dace	24			D-03-089_020703_E1
D-03-089	White Sucker	8	83-216	216 is mature male	D-03-089_020703_E1
D-03-090	Brook Stickleback	100		Released	D-03-090_020703_D1
D-03-090	Creek Chub	100		Released	D-03-090_020703_D1
D-03-090	Fathead Minnow	100		Released	D-03-090_020703_D1
D-03-090	Northern Redbelly Dace	50		Released	D-03-090_020703_D1
D-03-090	Finescale Dace	50		Released	D-03-090_020703_D1
D-03-090	Pearl Dace	10		Released	D-03-090_020703_D1
D-03-091	Brook Stickleback	1			D-03-091_030703_E1
D-03-091	Common Shiner	3			D-03-091_030703_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-091	Creek Chub	4			D-03-091_030703_E1
D-03-091	Fathead Minnow	11			D-03-091_030703_E1
D-03-091	Johnny Darter	7			D-03-091_030703_E1
D-03-091	Western Blacknose Dace	6			D-03-091_030703_E1
D-03-091	White Sucker	20	46-350	15 YOY	D-03-091_030703_E1
D-03-094	Brook Stickleback	1		Released	D-03-094_080703_E1
D-03-095	Brook Stickleback	4			D-03-095_080703_E1
D-03-096	Brook Stickleback	6			D-03-096_080703_E1
D-03-097	Blackside Darter	12			D-03-097_090703_E1
D-03-097	Common Shiner	17			D-03-097_090703_E1
D-03-097	Creek Chub	12			D-03-097_090703_E1
D-03-097	Johnny Darter	7			D-03-097_090703_E1
D-03-097	Sand Shiner	1			D-03-097_090703_E1
D-03-097	Western Blacknose Dace	1			D-03-097_090703_E1
D-03-097	White Sucker	3	71-116		D-03-097_090703_E1
D-03-098	Brook Stickleback	50			D-03-098_090703_B1
D-03-098	Creek Chub	10			D-03-098_090703_B1
D-03-098	Fathead Minnow	13			D-03-098_090703_B1
D-03-098	White Sucker	220	51-57	YOY	D-03-098_090703_B1
D-03-100	Brook Stickleback	13			D-03-100_090703_E1
D-03-100	Fathead Minnow	1			D-03-100_090703_E1
D-03-101	Brook Stickleback	10			D-03-101_090703_E1
D-03-101	Fathead Minnow	7			D-03-101_090703_E1
D-03-102	No Catch				D-03-102_110703_E1
D-03-103	Northern Pike	2	86, 96	YOY-7 others observed	D-03-103_110703_E1
D-03-105	Northern Pike	1		YOY	D-03-105_110703_D1
D-03-105	Walleye	1		YOY	D-03-105_110703_D1
D-03-105	White Sucker	1		YOY	D-03-105_110703_D1
D-03-110	Brook Stickleback	24			D-03-110_140703_E1
D-03-110	Central Mudminnow	4			D-03-110_140703_E1
D-03-111	Brook Stickleback	55			D-03-111_140703_B1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-111	Fathead Minnow	87			D-03-111_140703_B1
D-03-111	Finescale Dace	2			D-03-111_140703_B1
D-03-111	White Sucker	5	40-170	4 YOY	D-03-111_140703_B1
D-03-117	Brook Stickleback	57			D-03-117_150703_E1
D-03-117	Fathead Minnow	34			D-03-117_150703_E1
D-03-117	Finescale Dace	2			D-03-117_150703_E1
D-03-117	Johnny Darter	2			D-03-117_150703_E1
D-03-117	Pearl Dace	1			D-03-117_150703_E1
D-03-117	Western Blacknose Dace	1			D-03-117_150703_E1
D-03-117	White Sucker	56	28-38*	YOY	D-03-117_150703_E1
D-03-120	Northern Pike	10	150-250	Observed under bridge, 2 year/size classes	D-03-120_160703_O1
D-03-121	Northern Pike	3	85-100	YOY	D-03-121_160703_E1
D-03-122	Brook Trout	1	138		D-03-122_160703_E1
D-03-122	Creek Chub	1			D-03-122_160703_E1
D-03-122	Finescale Dace	13			D-03-122_160703_E1
D-03-122	Pearl Dace	1			D-03-122_160703_E1
D-03-122	Western Blacknose Dace	16			D-03-122_160703_E1
D-03-124	Blacknose Shiner	11			D-03-124_160703_E1
D-03-124	Creek Chub	2			D-03-124_160703_E1
D-03-124	Fathead Minnow	9			D-03-124_160703_E1
D-03-124	Finescale Dace	14			D-03-124_160703_E1
D-03-124	Western Blacknose Dace	22			D-03-124_160703_E1
D-03-124	White Sucker	1	34*	YOY	D-03-124_160703_E1
D-03-126	Northern Pike	10	200-250	Released	D-03-126_170703_B1
D-03-129	Creek Chub	10			D-03-129_170703_D1
D-03-129	Fathead Minnow	10			D-03-129_170703_D1
D-03-129	Western Blacknose Dace	10			D-03-129_170703_D1
D-03-132	Brook Stickleback	5			D-03-132_170703_E1
D-03-132	Fathead Minnow	1			D-03-132_170703_E1
D-03-132	Finescale Dace	32			D-03-132_170703_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-132	Johnny Darter	1			D-03-132_170703_E1
D-03-132	Northern Redbelly Dace	15			D-03-132_170703_E1
D-03-132	Pearl Dace	1		Released	D-03-132_170703_E1
D-03-132	Western Blacknose Dace	8			D-03-132_170703_E1
D-03-132	White Sucker	1	29*	YOY	D-03-132_170703_E1
D-03-134	Brook Stickleback	12		Released 10	D-03-134_170703_B1
D-03-134	Creek Chub	139		Released 100	D-03-134_170703_B1
D-03-134	Fathead Minnow	143		Released 100	D-03-134_170703_B1
D-03-134	Finescale Dace	13			D-03-134_170703_B1
D-03-138	Brook Stickleback	3		Released	D-03-138_180703_E1
D-03-138	Blackchin Shiner	19			D-03-138_180703_E1
D-03-138	Blacknose Shiner	3			D-03-138_180703_E1
D-03-138	Creek Chub	4			D-03-138_180703_E1
D-03-138	Fathead Minnow	1			D-03-138_180703_E1
D-03-138	Finescale Dace	24			D-03-138_180703_E1
D-03-138	Northern Redbelly Dace	5			D-03-138_180703_E1
D-03-138	Western Blacknose Dace	2			D-03-138_180703_E1
D-03-142	Brook Stickleback	3			D-03-142_220703_E1
D-03-142	Creek Chub	6			D-03-142_220703_E1
D-03-142	Finescale Dace	4			D-03-142_220703_E1
D-03-142	Johnny Darter	15			D-03-142_220703_E1
D-03-142	Longnose Dace	3			D-03-142_220703_E1
D-03-142	Mottled Sculpin	2			D-03-142_220703_E1
D-03-142	Western Blacknose Dace	17			D-03-142_220703_E1
D-03-143	Blacknose Shiner	5			D-03-143_220703_E1
D-03-143	Common Shiner	1			D-03-143_220703_E1
D-03-143	Creek Chub	10			D-03-143_220703_E1
D-03-143	Emerald Shiner	4			D-03-143_220703_E1
D-03-143	Finescale Dace	6			D-03-143_220703_E1
D-03-143	Iowa Darter	2			D-03-143_220703_E1
D-03-143	Johnny Darter	6			D-03-143_220703_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-143	Longnose Dace	4			D-03-143_220703_E1
D-03-143	Western Blacknose Dace	35			D-03-143_220703_E1
D-03-144	Blacknose Shiner	4			D-03-144_220703_E1
D-03-144	Brook Stickleback	13			D-03-144_220703_E1
D-03-144	Finescale Dace	8			D-03-144_220703_E1
D-03-144	Longnose Dace	20			D-03-144_220703_E1
D-03-144	Silver Redhorse	8	20-31*	YOY	D-03-144_220703_E1
D-03-144	Western Blacknose Dace	77			D-03-144_220703_E1
D-03-145	Brook Stickleback	4			D-03-145_220703_E1
D-03-145	Brook Trout	5	77-190	2 larger observed	D-03-145_220703_E1
D-03-145	Johnny Darter	6			D-03-145_220703_E1
D-03-145	Western Blacknose Dace	27			D-03-145_220703_E1
D-03-152	Blacknose Shiner	8			D-03-152_230703_E1
D-03-152	Brook Stickleback	14			D-03-152_230703_E1
D-03-152	Fathead Minnow	1			D-03-152_230703_E1
D-03-152	Finescale Dace	2			D-03-152_230703_E1
D-03-152	White Sucker	4	170-300		D-03-152_230703_E1
D-03-154	Blacknose Shiner	3			D-03-154_230703_E1
D-03-154	Blackside Darter	3			D-03-154_230703_E1
D-03-154	Longnose Dace	10			D-03-154_230703_E1
D-03-154	Western Blacknose Dace	3			D-03-154_230703_E1
D-03-155	Brook Stickleback	14			D-03-155_230703_E1
D-03-155	Fathead Minnow	6			D-03-155_230703_E1
D-03-155	Finescale Dace	3			D-03-155_230703_E1
D-03-156	Brook Stickleback	60			D-03-156_230703_E1
D-03-156	Western Blacknose Dace	1			D-03-156_230703_E1
D-03-164	Brook Stickleback	3			D-03-164_240703_E1
D-03-164	Creek Chub	9			D-03-164_240703_E1
D-03-164	Fathead Minnow	2			D-03-164_240703_E1
D-03-164	Northern Pike	3	122-200	1 YOY	D-03-164_240703_E1
D-03-164	White Sucker	3	122-210	Released 1	D-03-164_240703_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-03-167	Creek Chub	1			D-03-167_250703_E1
D-03-167	Finescale Dace	2			D-03-167_250703_E1
D-03-167	Iowa Darter	1			D-03-167_250703_E1
D-03-167	Johnny Darter	4			D-03-167_250703_E1
D-03-167	Longnose Dace	6			D-03-167_250703_E1
D-03-167	Western Blacknose Dace	11			D-03-167_250703_E1
D-03-168	Brook Stickleback	2		Observed while electrofishing, unable to collect.	D-03-168_100903_E1
D-03-168	Johnny Darter	1		Observed while electrofishing, unable to collect.	D-03-168_100903_E1
D-03-168	Northern Pike	2		Observed while electrofishing, unable to collect. One estimated @ 200 mm, one @ 350 mm.	D-03-168_100903_E1
D-03-168	White Sucker	6	91-202		D-03-168_100903_E1
D-03-170	Blackside Darter	1			D-03-170_110903_E1
D-03-170	Central Mudminnow	1			D-03-170_110903_E1
D-03-170	Johnny Darter	2			D-03-170_110903_E1
D-03-170	Western Blacknose Dace	2			D-03-170_110903_E1
D-03-170	White Sucker	5	124-266		D-03-170_110903_E1
W-03-001	Central Mudminnow	1			W-03-001_200503_B1
W-03-001	Pearl Dace	3			W-03-001_200503_B1
W-03-001	White Sucker	16	360-470	Post-spawn, released	W-03-001_200503_B1
W-03-002	Brook Stickleback	8		Released	W-03-002_210503_B1
W-03-002	Pearl Dace	2		Released	W-03-002_210503_B1
W-03-002	Fathead Minnow	1		Released	W-03-002_210503_B1
W-03-003	No Catch				W-03-003_210503_E1
W-03-004	Finescale Dace	6			W-03-004_210503_E1
W-03-008	No Catch				W-03-008_220503_E1
W-03-009	No Catch				W-03-009_220503_E1
W-03-010	No Catch				W-03-010_220503_E1
W-03-013	Brook Stickleback	9			W-03-013_230503_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-03-013	Central Mudminnow	3			W-03-013_230503_E1
W-03-019	Common Shiner	1			W-03-019_260503_E1
W-03-019	Northern Pike	3	21-26*	YOY	W-03-019_260503_E1
W-03-020	No Catch				W-03-020_260503_E1
W-03-026	Brook Stickleback	3			W-03-026_270503_B1
W-03-026	Fathead Minnow	79			W-03-026_270503_B1
W-03-030	Brook Stickleback	3			W-03-030_280503_B1
W-03-030	Fathead Minnow	1			W-03-030_280503_B1
W-03-030	No Catch				W-03-030_280503_E1
W-03-035	No Catch				W-03-035_290503_E1
W-03-036	No Catch				W-03-036_290503_E1
W-03-044	No Catch				W-03-044_030603_B1
W-03-046	Brook Stickleback	6			W-03-046_030603_E1
W-03-046	Fathead Minnow	4			W-03-046_030603_E1
W-03-049	Brook Stickleback	5		Released 3	W-03-049_030603_E1
W-03-050	Blackside Darter	6			W-03-050_040603_E1
W-03-050	Fathead Minnow	1			W-03-050_040603_E1
W-03-050	Johnny Darter	2			W-03-050_040603_E1
W-03-050	White Sucker	1	85		W-03-050_040603_E1
W-03-055	Brook Stickleback	1			W-03-055_040603_B1
W-03-055	Northern Pike	5	30*-41	YOY	W-03-055_040603_B1
W-03-065	Brook Stickleback	25			W-03-065_050603_D1
W-03-065	Central Mudminnow	4			W-03-065_050603_D1
W-03-066	Brook Stickleback	1			W-03-066_050603_D1
W-03-066	Creek Chub	1			W-03-066_050603_D1
W-03-066	Fathead Minnow	1			W-03-066_050603_D1
W-03-066	Johnny Darter	1			W-03-066_050603_D1
W-03-067	Brook Stickleback	6			W-03-067_060603_E1
W-03-069	Brook Stickleback	6		Spawning	W-03-069_060603_B1
W-03-069	Central Mudminnow	5			W-03-069_060603_B1
W-03-069	Creek Chub	3			W-03-069_060603_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-03-069	Fathead Minnow	11		Spawning	W-03-069_060603_B1
W-03-069	Finescale Dace	8			W-03-069_060603_B1
W-03-069	White Sucker	7	118-137		W-03-069_060603_B1
W-03-070	Common Shiner	16			W-03-070_060603_E1
W-03-070	Creek Chub	81		63 are YOY	W-03-070_060603_E1
W-03-070	Fathead Minnow	22			W-03-070_060603_D1
W-03-070	Fathead Minnow	30			W-03-070_060603_E1
W-03-070	Johnny Darter	5			W-03-070_060603_E1
W-03-070	Western Blacknose Dace	6			W-03-070_060603_E1
W-03-070	White Sucker	2	55, 70		W-03-070_060603_E1
W-03-072	No Catch				W-03-072_090603_E1
W-03-077	No Catch				W-03-077_100603_E1
W-03-079	Brook Stickleback	5			W-03-079_100603_E1
W-03-079	Fathead Minnow	4			W-03-079_100603_E1
W-03-079	Finescale Dace	6			W-03-079_100603_E1
W-03-079	River Shiner	1			W-03-079_100603_E1
W-03-079	Northern Redbelly Dace	5			W-03-079_100603_E1
W-03-079	Pearl Dace	1			W-03-079_100603_E1
W-03-080	Brook Stickleback	6			W-03-080_100603_D1
W-03-084	Brook Stickleback	17			W-03-084_110603_D1
W-03-087	Brook Stickleback	13			W-03-087_110603_D1
W-03-088	Brook Stickleback	32			W-03-088_110603_E1
W-03-088	Central Mudminnow	10			W-03-088_110603_E1
W-03-091	Brook Stickleback	2			W-03-091_130603_E1
W-03-092	Brook Stickleback	3			W-03-092_130603_E1
W-03-092	Central Mudminnow	6			W-03-092_130603_E1
W-03-092	White Sucker	42	21-30*		W-03-092_130603_E1
W-03-093	Brook Stickleback	1			W-03-093_130603_E1
W-03-093	Central Mudminnow	4			W-03-093_130603_E1
W-03-093	White Sucker	1	87		W-03-093_130603_E1
W-03-094	No Catch				W-03-094_160603_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-03-095	Brook Stickleback	4			W-03-095_160603_E1
W-03-095	Finescale Dace	3			W-03-095_160603_E1
W-03-095	Northern Redbelly Dace	2			W-03-095_160603_E1
W-03-096	No Catch				W-03-096_160603_E1
W-03-097	No Catch				W-03-097_170603_E1
W-03-098	Brook Stickleback	3			W-03-098_170603_B1
W-03-100	Brook Stickleback	2			W-03-100_170603_E1
W-03-100	Central Mudminnow	2			W-03-100_170603_E1
W-03-101	Central Mudminnow	2			W-03-101_180603_E1
W-03-104	No Catch				W-03-104_180603_E1
W-03-107	Finescale Dace	1			W-03-107_180603_E1
W-03-110	Brook Stickleback	9			W-03-110_190603_E1
W-03-110	Fathead Minnow	3			W-03-110_190603_E1
W-03-110	Mimic Shiner	1			W-03-110_190603_E1
W-03-111	Brook Stickleback	1			W-03-111_190603_E1
W-03-112	Blackside Darter	9			W-03-112_190603_E1
W-03-112	Brook Stickleback	2			W-03-112_190603_E1
W-03-112	Finescale Dace	2			W-03-112_190603_E1
W-03-112	Johnny Darter	3			W-03-112_190603_E1
W-03-113	White Sucker	1	141		W-03-113_240603_E1
W-03-114	No Catch				W-03-114_240603_E1
W-03-141	Unidentified minnow	16		Post-larval stage	W-03-141_260603_D1
W-03-142	Brook Stickleback	116			W-03-142_260603_D1
W-03-142	Northern Redbelly Dace	4			W-03-142_260603_D1
W-03-143	No Catch				W-03-143_020703_E1
W-03-144	Blackside Darter	1			W-03-144_020703_E1
W-03-144	Brook Stickleback	3			W-03-144_020703_E1
W-03-144	Central Mudminnow	1			W-03-144_020703_E1
W-03-144	Johnny Darter	8			W-03-144_020703_E1
W-03-144	Western Blacknose Dace	8			W-03-144_020703_E1
W-03-144	White Sucker	1	44	YOY	W-03-144_020703_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-03-146	Brook Stickleback	14			W-03-146_020703_E1
W-03-146	Johnny Darter	4			W-03-146_020703_E1
W-03-150	Brook Stickleback	8			W-03-150_030703_E1
W-03-150	White Sucker	8	33-47	YOY	W-03-150_030703_E1
W-03-151	Finescale Dace	47			W-03-151_030703_E1
W-03-154	Brook Stickleback	2			W-03-154_040703_D1
W-03-154	Common Shiner	2			W-03-154_040703_D1
W-03-154	Finescale Dace	2			W-03-154_040703_D1
W-03-155	Brook Stickleback	7			W-03-155_040703_E1
W-03-155	Finescale Dace	7			W-03-155_040703_E1
W-03-155	Northern Redbelly Dace	1			W-03-155_040703_E1
W-03-155	Pearl Dace	1			W-03-155_040703_E1
W-03-158	Fathead Minnow	1			W-03-158_040703_B1
W-03-158	Brook Stickleback	25			W-03-158_040703_B1
W-03-158	Hornyhead Chub	8		SARA species	W-03-158_040703_B1
W-03-158	Johnny Darter	1			W-03-158_040703_B1
W-03-158	Common Shiner	48			W-03-158_040703_B1
W-03-158	White Sucker	6	27-23*	YOY	W-03-158_040703_B1
W-03-162	Brook Stickleback	12			W-03-162_050703_E1
W-03-162	Common Shiner	12			W-03-162_050703_E1
W-03-162	Finescale Dace	1			W-03-162_050703_E1
W-03-162	Unidentified sucker	3	12-14*	Post-larval stage, recent hatch	W-03-162_050703_E1
W-03-165	Blackside Darter	7			W-03-165_050703_E1
W-03-165	Central Mudminnow	1			W-03-165_050703_E1
W-03-165	Johnny Darter	12			W-03-165_050703_E1
W-03-165	Longnose Dace	1			W-03-165_050703_E1
W-03-165	Common Shiner	6			W-03-165_050703_E1
W-03-165	White Sucker	1	32*	YOY	W-03-165_050703_E1
W-03-167	Brook Stickleback	10			W-03-167_060703_B1
W-03-167	Finescale Dace	1			W-03-167_060703_B1
W-03-173	Brook Stickleback	10			W-03-173_060703_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-03-173	Fathead Minnow	3			W-03-173_060703_B1
W-03-173	White Sucker	4	24-29*	YOY	W-03-173_060703_B1
W-03-176	No Catch				W-03-176_070703_E1
W-03-182	Sand Shiner	3			W-03-182_080703_B1
W-03-182	Brook Stickleback	5			W-03-182_080703_B1
W-03-182	Fathead Minnow	3			W-03-182_080703_B1
W-03-182	Unidentified minnow	100s		Post-larval stage	W-03-182_080703_B1
W-03-185	Brook Stickleback	12			W-03-185_080703_B1
W-03-185	Central Mudminnow	2			W-03-185_080703_B1
W-03-185	Fathead Minnow	21			W-03-185_080703_B1
W-03-185	Unidentified minnow	105		Post-larval stage	W-03-185_080703_B1
W-03-186	Brook Stickleback	5			W-03-186_090703_D1
W-03-186	Central Mudminnow	1			W-03-186_090703_D1
W-03-186	Fathead Minnow	21			W-03-186_090703_D1
W-03-189	Brook Stickleback	1			W-03-189_090703_B1
W-03-189	Central Mudminnow	12			W-03-189_090703_B1
W-03-191	Brook Stickleback	7			W-03-191_160703_E1
W-03-191	Central Mudminnow	3			W-03-191_160703_E1
W-03-191	Iowa Darter	2			W-03-191_160703_E1
W-03-191	Johnny Darter	3			W-03-191_160703_E1
W-03-191	Walleye	1	85	Escaped dip-net	W-03-191_160703_E1
W-03-194	Blackside Darter	3			W-03-194_160703_E1
W-03-194	Central Mudminnow	1			W-03-194_160703_E1
W-03-194	Fathead Minnow	3			W-03-194_160703_E1
W-03-194	Finescale Dace	13			W-03-194_160703_E1
W-03-194	Johnny Darter	1			W-03-194_160703_E1
W-03-194	Pearl Dace	8			W-03-194_160703_E1
W-03-195	Brook Stickleback	18			W-03-195_160703_B1
W-03-195	Central Mudminnow	2			W-03-195_160703_B1
W-03-195	Finescale Dace	12			W-03-195_160703_B1
W-03-195	Johnny Darter	1			W-03-195_160703_B1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-03-195	Pearl Dace	26			W-03-195_160703_B1
W-03-195	White Sucker	2	132, 133		W-03-195_160703_B1
W-03-198	Central Mudminnow	2			W-03-198_170703_E1
W-03-198	Western Blacknose Dace	2			W-03-198_170703_E1
W-03-201	Brook Stickleback	25			W-03-201_170703_B1
W-03-201	Central Mudminnow	12			W-03-201_170703_B1
W-03-201	Finescale Dace	36			W-03-201_170703_B1
W-03-201	Northern Redbelly Dace	17			W-03-201_170703_B1
W-03-203	Brook Stickleback	72			W-03-203_180703_E1
W-03-203	Central Mudminnow	1			W-03-203_180703_E1
W-03-203	Pearl Dace	1			W-03-203_180703_E1
W-03-203	Fathead Minnow	2			W-03-203_180703_E1
W-03-203	Finescale Dace	48			W-03-203_180703_E1
W-03-203	Iowa Darter	3			W-03-203_180703_E1
W-03-203	Johnny Darter	50			W-03-203_180703_E1
W-03-204	Brook Stickleback	9			W-03-204_180703_E1
W-03-204	Emerald Shiner	10			W-03-204_180703_E1
W-03-204	Finescale Dace	7			W-03-204_180703_E1
W-03-204	Unidentified minnow	100		Post-larval stage	W-03-204_180703_E1
W-03-205	Brook Stickleback	10			W-03-205_180703_E1
W-03-205	Central Mudminnow	6			W-03-205_180703_E1
W-03-205	Finescale Dace	103			W-03-205_180703_E1
W-03-206	Blackside Darter	1			W-03-206_310703_E1
W-03-206	Brook Stickleback	11			W-03-206_310703_E1
W-03-206	Central Mudminnow	4			W-03-206_310703_E1
W-03-206	Iowa Darter	2			W-03-206_310703_E1
W-03-206	White Sucker	6	30*-44	YOY	W-03-206_310703_E1
W-03-210	Central Mudminnow	3			W-03-210_310703_E1
W-03-210	Johnny Darter	5			W-03-210_310703_E1
W-03-211	Northern Pike	24	120-151	YOY, 22 released	W-03-211_310703_B1
W-03-223	Northern Pike	5	101-140	YOY	W-03-223_050803_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-03-224	Black Bullhead	150		YOY, 99 released	W-03-224_050803_E1
W-03-224	Johnny Darter	2			W-03-224_050803_E1
W-03-224	Longnose Dace	1			W-03-224_050803_E1
W-03-224	Spottail Shiner	17			W-03-224_050803_E1
W-03-224	Western Blacknose Dace	6			W-03-224_050803_E1
W-03-229	No Catch				W-03-229_060803_B1
W-03-237	Brook Stickleback	41			W-03-237_060803_E1
W-03-237	Fathead Minnow	13		Spawning	W-03-237_060803_E1
W-03-237	Finescale Dace	1			W-03-237_060803_E1
W-03-237	Iowa Darter	2			W-03-237_060803_E1
W-03-237	Johnny Darter	20			W-03-237_060803_E1
W-03-237	White Sucker	10	65-200	Released 6	W-03-237_060803_E1
W-03-238	Johnny Darter	12			W-03-238_070803_E1
W-03-238	Longnose Dace	16			W-03-238_070803_E1
W-03-238	Rock Bass	16	31-121	5 YOY	W-03-238_070803_E1
W-03-238	Tadpole Madtom	1			W-03-238_070803_E1
W-03-238	Western Blacknose Dace	30			W-03-238_070803_E1
W-03-238	White Sucker	3	50, 60, 63	YOY	W-03-238_070803_E1
W-03-239	Central Mudminnow	7			W-03-239_070803_E1
W-03-239	Iowa Darter	6			W-03-239_070803_E1
W-03-239	Johnny Darter	56			W-03-239_070803_E1
W-03-239	Longnose Dace	10			W-03-239_070803_E1
W-03-239	Northern Pike	5	140-200	YOY, 4 released	W-03-239_070803_E1
W-03-239	White Sucker	4	97-125		W-03-239_070803_E1
W-03-247	Blacknose Shiner	15			W-03-247_080803_E1
W-03-247	Western Blacknose Dace	25			W-03-247_080803_E1
W-03-248	Brook Stickleback	3			W-03-248_080803_E1
W-03-249	Brook Stickleback	25			W-03-249_110803_E1
W-03-249	Central Mudminnow	4			W-03-249_110803_E1
W-03-249	White Sucker	13	27-42*	YOY	W-03-249_110803_E1
W-03-251	Blacknose Shiner	10			W-03-251_110803_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-03-251	Brook Stickleback	3			W-03-251_110803_E1
W-03-251	Fathead Minnow	3			W-03-251_110803_E1
W-03-266	No Catch				W-03-266_130803_E1
W-03-267	Brook Stickleback	5			W-03-267_130803_B1
W-03-267	Fathead Minnow	52			W-03-267_130803_B1
W-03-267	Northern Pike	2	220, 230	Released	W-03-267_130803_B1
B-04-002	No Catch				B-04-002_010504_E1
B-04-003	Fathead Minnow	1			B-04-003_010504_B1
B-04-003	Northern Pike	1	520	Ripe male, released	B-04-003_010504_E1
B-04-003	White Sucker	1	490	Spent female, released	B-04-003_010504_E1
B-04-004	No Catch				B-04-004_010504_E1
B-04-006	White Sucker	100's		Dead, trapped in pools	B-04-006_010504_E1
B-04-006	Yellow Perch	100's		Dead, trapped in pools	B-04-006_010504_E1
B-04-008	Brook Stickleback	12			B-04-008_010504_E1
B-04-008	Fathead Minnow	7			B-04-008_010504_E1
B-04-008	Finescale Dace	1			B-04-008_010504_E1
B-04-008	Northern Redbelly Dace	1			B-04-008_010504_E1
B-04-010	Brook Stickleback	15			B-04-010_020504_E1
B-04-010	Fathead Minnow	20			B-04-010_020504_E1
B-04-010	No Catch			Invertebrates only	B-04-010_020504_K1
B-04-010	Northern Redbelly Dace	1		A large operculum (unidentified) is included in the sample	B-04-010_020504_E1
B-04-011	No Catch				B-04-011_020504_E1
B-04-012	White Sucker	100's		Congregated on spawning riffle	B-04-012_020504_O1
B-04-013	White Sucker	100's		Congregated on spawning riffle	B-04-013_020504_O1
B-04-014	White Sucker	100's		Congregated on spawning riffle	B-04-014_020504_O1
B-04-015	White Sucker	100's		Congregated on spawning riffle	B-04-015_020504_O1
B-04-016	White Sucker	100's		Congregated on spawning riffle	B-04-016_020504_O1
B-04-017	Brook Stickleback	1			B-04-017_020504_E1
B-04-017	Fathead Minnow	6			B-04-017_020504_E1
B-04-017	Finescale Dace	1			B-04-017_020504_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-017	No Catch			Invertebrates only	B-04-017_020504_K1
B-04-018	Black Bullhead	3			B-04-018_030504_B1
B-04-018	Brook Stickleback	2			B-04-018_030504_B1
B-04-018	Fathead Minnow	3			B-04-018_030504_B1
B-04-019	Black Bullhead	4			B-04-019_030504_E1
B-04-019	Brook Stickleback	6			B-04-019_030504_E1
B-04-019	Fathead Minnow	7			B-04-019_030504_E1
B-04-020	Black Bullhead	8			B-04-020_030504_B1
B-04-020	Fathead Minnow	6			B-04-020_030504_B1
B-04-020	Fathead Minnow	8			B-04-020_030504_B1
B-04-020	No Catch			Beach seine failed	B-04-020_030504_B2
B-04-020	Sand Shiner	17			B-04-020_030504_B1
B-04-021	Black Bullhead	1	170*	Released	B-04-021_030504_E1
B-04-022	Brook Stickleback	3			B-04-022_030504_B1
B-04-022	Fathead Minnow	16		Plus one Orconectes virilis	B-04-022_030504_B1
B-04-022	White Sucker	1	14*	YOY	B-04-022_030504_B1
B-04-026	Black Bullhead	9		Released	B-04-026_040504_E1
B-04-026	Fathead Minnow	16		Plus one Anodonta spp. mussel	B-04-026_040504_E1
B-04-027	Fathead Minnow	9			B-04-027_040504_E1
B-04-027	Quillback	2	403, 424	Released	B-04-027_040504_E1
B-04-027	River Shiner	3			B-04-027_040504_E1
B-04-027	Sand Shiner	15			B-04-027_040504_E1
B-04-027	Troutperch	3			B-04-027_040504_E1
B-04-028	Black Bullhead	250	60-100*	Released	B-04-028_040504_B1
B-04-028	Northern Pike	1	520	Released	B-04-028_040504_B1
B-04-030	Fathead Minnow	8			B-04-030_040504_E1
B-04-030	Sand Shiner	1			B-04-030_040504_E1
B-04-031	No Catch				B-04-031_060504_E1
B-04-031	No Catch				B-04-031_060504_B1
B-04-037	No Catch				B-04-037_060504_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-039	White Sucker	100's		Congregated below structure, no upstream passage	B-04-039_060504_O1
B-04-041	No Catch				B-04-041_070504_B1
B-04-043	Fathead Minnow	3			B-04-043_070504_B1
B-04-044	Brook Stickleback	3			B-04-044_070504_E1
B-04-044	Common Shiner	1			B-04-044_070504_E1
B-04-044	Creek Chub	2			B-04-044_070504_E1
B-04-044	Finescale Dace	3			B-04-044_070504_E1
B-04-044	Johnny Darter	2			B-04-044_070504_E1
B-04-044	Northern Redbelly Dace	2			B-04-044_070504_E1
B-04-044	Western Blacknose Dace	2			B-04-044_070504_E1
B-04-044	White Sucker	1	157		B-04-044_070504_E1
B-04-045	Blackside Darter	1		Kick sample contains stone fly nymphs and pea clams, suggesting riffle habitat and stony substrate	B-04-045_070504_K1
B-04-045	Johnny Darter	1			B-04-045_070504_K1
B-04-045	Longnose Dace	8			B-04-045_070504_K1
B-04-046	Brook Stickleback	13			B-04-046_100504_E1
B-04-046	Central Mudminnow	1			B-04-046_100504_E1
B-04-046	Creek Chub	32		Released 2 (170, 135 mm)	B-04-046_100504_E1
B-04-046	Fathead Minnow	13			B-04-046_100504_E1
B-04-046	Finescale Dace	2			B-04-046_100504_E1
B-04-046	Iowa Darter	3			B-04-046_100504_E1
B-04-046	Johnny Darter	5			B-04-046_100504_E1
B-04-046	Western Blacknose Dace	2			B-04-046_100504_E1
B-04-047	Blackside Darter	2			B-04-047_100504_E1
B-04-047	Central Mudminnow	1			B-04-047_100504_E1
B-04-047	Creek Chub	4			B-04-047_100504_E1
B-04-047	Fathead Minnow	2			B-04-047_100504_E1
B-04-047	Johnny Darter	1			B-04-047_100504_E1
B-04-047	No Catch			Invertebrates only	B-04-047_100504_K1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-047	Western Blacknose Dace	2			B-04-047_100504_E1
B-04-047	White Sucker	14	53-169	3 specimens, 140 mm (2 male) – 169 mm (female), all mature	B-04-047_100504_E1
B-04-048	Bigmouth Shiner	10			B-04-048_100504_B1
B-04-048	Common Shiner	138			B-04-048_100504_B1
B-04-048	Creek Chub	10			B-04-048_100504_B1
B-04-048	Fathead Minnow	16			B-04-048_100504_B1
B-04-048	Western Blacknose Dace	20			B-04-048_100504_B1
B-04-048	White Sucker	20	48-105	Largest was female with developed eggs - probably dwarf	B-04-048_100504_B1
B-04-055	Blackside Darter	2			B-04-055_130504_E1
B-04-055	No Catch				B-04-055_130504_B1
B-04-055	White Sucker	1	67		B-04-055_130504_E1
B-04-058	No Catch				B-04-058_140504_E1
B-04-060	No Catch				B-04-060_140504_E1
B-04-064	No Catch				B-04-064_140504_B1
B-04-066	No Catch				B-04-066_170504_E1
B-04-069	Northern Pike	75	12-14*	YOY, 18 unidentifiable but likely Northern Pike	B-04-069_180504_L1
B-04-070	No Catch				B-04-070_180504_E1
B-04-072	No Catch				B-04-072_180504_K1
B-04-073	No Catch			Invertebrates only	B-04-073_190504_K1
B-04-073	White Sucker	100's		Many observed below control structure	B-04-073_190504_O1
B-04-074	Eggs	4		Sucker eggs, most likely White Sucker	B-04-074_190504_K1
B-04-075	Walleye			Annual drift samples by Fisheries Branch, Dauphin	B-04-075_200504_O1
B-04-076	No Catch				B-04-076_200504_L1
B-04-077	No Catch				B-04-077_200504_L1
B-04-078	No Catch				B-04-078_200504_E1
B-04-078	Unidentified minnow	2		Post-larval stage	B-04-078_200504_L1
B-04-080	Fathead Minnow			Many observed in pool	B-04-080_200504_O1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-083	Northern Pike	15	350-480	Adult Northern Pike and many larval Northern Pike trapped in pools	B-04-083_200504_D1
B-04-084	Northern Pike	7		Adult Northern Pike trapped in pools	B-04-084_200504_O1
B-04-085	Northern Pike			Adults and larval Northern Pike trapped in pools	B-04-085_200504_O1
B-04-086	Fathead Minnow	5			B-04-086_210504_E1
B-04-086	White Sucker	1		Adult released	B-04-086_210504_B1
B-04-087	No Catch				B-04-087_220504_L1
B-04-088	No Catch				B-04-088_250504_L1
B-04-090	No Catch				B-04-090_250504_L1
B-04-092	No Catch			Invertebrates only	B-04-092_250504_K1
B-04-093	No Catch				B-04-093_310504_B1
B-04-094	No Catch				B-04-094_310504_B1
B-04-095	No Catch				B-04-095_310504_B1
B-04-101	No Catch				B-04-101_010604_B1
B-04-102	No Catch				B-04-102_010604_E1
B-04-104	Northern Pike	1	62	Plus 2 tadpole shrimp (*Lepidurus* spp.) indicator of intermittent water	B-04-104_010604_L1
B-04-105	No Catch				B-04-105_010604_E1
B-04-108	No Catch				B-04-108_020604_B1
B-04-109	Fathead Minnow	2		Released males with spawning tubercles	B-04-109_020604_E1
B-04-110	Brook Stickleback	13			B-04-110_020604_E1
B-04-110	Fathead Minnow	4			B-04-110_020604_E1
B-04-113	Common Shiner	18			B-04-113_020604_E1
B-04-113	Fathead Minnow	22			B-04-113_020604_B1
B-04-114	No Catch				B-04-114_030604_E1
B-04-121	Central Mudminnow	1			B-04-121_040604_E1
B-04-121	Fathead Minnow	2			B-04-121_040604_E1
B-04-121	Western Blacknose Dace	4			B-04-121_040604_E1
B-04-121	White Sucker	3	58-72		B-04-121_040604_E1
B-04-122	Blackside Darter	2			B-04-122_040604_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-122	Brook Stickleback	2			B-04-122_040604_E1
B-04-122	Creek Chub	3		1 male	B-04-122_040604_E1
B-04-122	Fathead Minnow	4		1 male with spawning color	B-04-122_040604_E1
B-04-123	Bigmouth Shiner	1			B-04-123_070604_E1
B-04-123	Blackside Darter	1			B-04-123_070604_E1
B-04-123	Brook Stickleback	1			B-04-123_070604_E1
B-04-123	Chestnut Lamprey	1	239*	Free eggs in abdomen - probably spawning, bicuspid inner teeth, pigmented lateral line	B-04-123_070604_E1
B-04-123	Common Shiner	2			B-04-123_070604_E1
B-04-123	Creek Chub	1			B-04-123_070604_E1
B-04-123	Johnny Darter	1			B-04-123_070604_E1
B-04-123	Longnose Dace	1			B-04-123_070604_E1
B-04-123	Troutperch	1			B-04-123_070604_E1
B-04-123	White Sucker	4	58-86		B-04-123_070604_E1
B-04-124	No Catch				B-04-124_070604_E1
B-04-125	Northern Pike	21	37-54*	All YOY	B-04-125_070604_B1
B-04-126	Fathead Minnow	3		Released 2 male, 1 female spawners	B-04-126_080604_B1
B-04-127	Fathead Minnow	3			B-04-127_080604_E1
B-04-129	No Catch				B-04-129_080604_E1
B-04-131	No Catch				B-04-131_090604_E1
B-04-133	No Catch				B-04-133_090604_E1
B-04-136	White Sucker	1	158	Post-spawn male	B-04-136_100604_E1
B-04-140	Brook Stickleback	1			B-04-140_140604_E1
B-04-140	Fathead Minnow	1			B-04-140_140604_E1
B-04-140	Unidentified sucker	1	10*	Post-larval stage	B-04-140_140604_E1
B-04-141	Brook Stickleback	1			B-04-141_140604_D1
B-04-141	Fathead Minnow	12			B-04-141_140604_D1
B-04-141	White Sucker	1	63		B-04-141_140604_D1
B-04-144	Common Shiner	2			B-04-144_150604_E1
B-04-144	Creek Chub	3		Plus 1 crayfish - *Orconectes virilis*	B-04-144[illegible]50604_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-144	Fathead Minnow	6		2 spawning males	B-04-144_150604_E1
B-04-144	Western Blacknose Dace	7			B-04-144_150604_E1
B-04-144	White Sucker	3	79-140	140mm is immature male	B-04-144_150604_E1
B-04-145	Bigmouth Shiner	1			B-04-145_150604_E1
B-04-145	Black Bullhead	2		Released 1 @191mm	B-04-145_150604_E1
B-04-145	Brook Stickleback	3			B-04-145_150604_E1
B-04-145	Common Shiner	2		1 male with spawning color	B-04-145_150604_E1
B-04-145	Creek Chub	2	158	1 spawning male	B-04-145_150604_E1
B-04-145	Fathead Minnow	34			B-04-145_150604_E1
B-04-145	Western Blacknose Dace	7			B-04-145_150604_E1
B-04-147	Fathead Minnow	300+		Congregated at impassable culvert	B-04-147_150604_O1
B-04-149	Bigmouth Shiner	1			B-04-149_150604_E1
B-04-149	Black Bullhead	31	70-190*	Released 26	B-04-149_150604_B1
B-04-149	Common Shiner	2			B-04-149_150604_E1
B-04-149	Creek Chub	1			B-04-149_150604_E1
B-04-149	Fathead Minnow	1			B-04-149_150604_E1
B-04-149	Fathead Minnow	33			B-04-149_150604_B1
B-04-149	Johnny Darter	2		Spawning colors	B-04-149_150604_B1
B-04-149	Northern Redbelly Dace	6			B-04-149_150604_E1
B-04-149	Unidentified minnow	1		Post-larval stage	B-04-149_150604_B1
B-04-149	Unidentified sucker	3	18-19*	Post larval stage. Plus 2 *Orconectes virilis* (crayfish)	B-04-149_150604_B1
B-04-149	Western Blacknose Dace	1			B-04-149_150604_B1
B-04-149	White Sucker	2	18*	One larvae, one post larvae	B-04-149_150604_B1
B-04-152	No Catch				B-04-152_160604_B1
B-04-153	Brook Stickleback	1			B-04-153_160604_E1
B-04-153	Fathead Minnow	28			B-04-153_160604_E1
B-04-153	White Sucker	28	10-14*	Largest is consistent with White Sucker - there is less certainty with the smallest larvae but they appear to grade into the larger ones with increasing size	B-04-153_160604_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-155	No Catch				B-04-155_160604_E1
B-04-161	Fathead Minnow	11			B-04-161_180604_B1
B-04-161	Northern Pike	2	50, 55	2 Neuroptera nymphs, 1 fingernail clam	B-04-161_180604_B1
B-04-161	White Sucker	1	95		B-04-161_180604_E1
B-04-163	No Catch				B-04-163_210604_E1
B-04-164	No Catch				B-04-164_210604_B1
B-04-165	No Catch				B-04-165_210604_E1
B-04-167	Black Bullhead	6			B-04-167_210604_E1
B-04-167	Fathead Minnow	7			B-04-167_210604_E1
B-04-167	Longnose Dace	1			B-04-167_210604_E1
B-04-167	Northern Pike	2	66, 400	One adult 400mm escaped seine, 1 post larval Northern Pike @ 66 mm collected	B-04-167_210604_E1
B-04-167	Unidentified minnow	1		Post larval stage. Plus 2 *Orconectes virilis* (crayfish)	B-04-167_210604_B1
B-04-167	White Sucker	469	18-24*	All YOY	B-04-167_210604_E1
B-04-174	Black Bullhead	3			B-04-174_220604_E1
B-04-174	Fathead Minnow	28		21 are YOY	B-04-174_220604_E1
B-04-174	Johnny Darter	2			B-04-174_220604_E1
B-04-174	Northern Pike	4	150-650	Released	B-04-174_220604_E1
B-04-174	White Sucker	8	76-163	163 mm is an immature male	B-04-174_220604_E1
B-04-181	Common Shiner	3			B-04-181_280604_E1
B-04-181	Creek Chub	5			B-04-181_280604_E1
B-04-181	Longnose Dace	1			B-04-181_280604_E1
B-04-181	Western Blacknose Dace	6			B-04-181_280604_E1
B-04-186	Brook Stickleback	1			B-04-186_290604_E1
B-04-186	Common Shiner	1			B-04-186_290604_E1
B-04-186	Fathead Minnow	4			B-04-186_290604_E1
B-04-186	Smallmouth Bass	4	270, 310, 390, 420	Released	B-04-186_290604_E1
B-04-186	White Sucker	13	86-131, 210, 400	Released 1 @ 400 mm, 210 mm is immature male	B-04-186_290604_E1

Appendix 5: List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-187	Common Shiner	5			B-04-187_290604_D1
B-04-187	Fathead Minnow	8			B-04-187_290604_D1
B-04-187	Unidentified sucker	17	12-15*	May be *C. commersoni* but not certain due to poor condition of specimens. Definitely Catostomid	B-04-187_290604_D1
B-04-187	White Sucker	1	31*	Plus 2 unidentified Catostomus post-larvae	B-04-187_290604_E1
B-04-188	Common Shiner	23		20 are YOY	B-04-188_290604_E1
B-04-188	Creek Chub				B-04-188_290604_E1
B-04-188	Fathead Minnow				B-04-188_290604_E1
B-04-188	Johnny Darter				B-04-188_290604_E1
B-04-188	White Sucker	28	10-15*		B-04-188_290604_E1
B-04-189	Fathead Minnow	1			B-04-189_300604_E1
B-04-189	River Darter	1			B-04-189_300604_E1
B-04-189	White Sucker	73	10-19*	All YOY	B-04-189_300604_E1
B-04-190	Fathead Minnow	4			B-04-190_300604_D1
B-04-190	Finescale Dace	6			B-04-190_300604_D1
B-04-191	Fathead Minnow	2			B-04-191_050704_E1
B-04-191	Western Blacknose Dace	1			B-04-191_050704_E1
B-04-191	White Sucker	10	10-18*	Post-larvae	B-04-191_050704_E1
B-04-195	Blacknose Shiner	13		All YOY	B-04-195_060704_B1
B-04-195	Unidentified minnow	7		Post larval stage. Plus 2 *Orconectes virilis* (crayfish)	B-04-195_060704_D1
B-04-195	White Sucker	23	21-23*	All YOY	B-04-195_060704_B1
B-04-196	Blackside Darter	1			B-04-196_060704_E1
B-04-196	Common Shiner	7	130	Released 1	B-04-196_060704_E1
B-04-196	Creek Chub	4			B-04-196_060704_E1
B-04-196	Fathead Minnow	2			B-04-196_060704_E1
B-04-196	Johnny Darter	4			B-04-196_060704_E1
B-04-196	Western Blacknose Dace	4			B-04-196_060704_E1
B-04-196	White Sucker	3	63, 180, 210	Released 2 adults (210, 180 mm) 63 mm kept	B-04-196_060704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-197	Common Shiner	1			B-04-197_060704_E1
B-04-197	Creek Chub	7	120	Released 1 (120 mm)	B-04-197_060704_E1
B-04-197	Fathead Minnow	7			B-04-197_060704_E1
B-04-197	Johnny Darter	7			B-04-197_060704_E1
B-04-197	Longnose Dace	3			B-04-197_060704_E1
B-04-197	Western Blacknose Dace	16			B-04-197_060704_E1
B-04-197	White Sucker	2	180, 200	Released	B-04-197_060704_E1
B-04-198	Common Shiner	5			B-04-198_060704_E1
B-04-198	Creek Chub	5			B-04-198_060704_E1
B-04-198	Johnny Darter	1			B-04-198_060704_E1
B-04-198	Longnose Dace	4			B-04-198_060704_E1
B-04-198	Western Blacknose Dace	3			B-04-198_060704_E1
B-04-198	White Sucker	1	74		B-04-198_060704_E1
B-04-199	Bigmouth Shiner	7			B-04-199_060704_E1
B-04-199	Common Shiner	4			B-04-199_060704_E1
B-04-199	Creek Chub	10			B-04-199_060704_E1
B-04-199	Fathead Minnow	3			B-04-199_060704_E1
B-04-199	Johnny Darter	4		Plus one *Orconectes virilis*	B-04-199_060704_E1
B-04-199	Longnose Dace	3			B-04-199_060704_E1
B-04-199	Western Blacknose Dace	9			B-04-199_060704_E1
B-04-199	White Sucker	3	43-59		B-04-199_060704_E1
B-04-200	Common Shiner	6			B-04-200_060704_E1
B-04-200	Creek Chub	11			B-04-200_060704_E1
B-04-200	Fathead Minnow	5			B-04-200_060704_E1
B-04-200	Johnny Darter	3			B-04-200_060704_E1
B-04-200	Western Blacknose Dace	7			B-04-200_060704_E1
B-04-200	White Sucker	2	121-127	1 immature male, 1 mature female	B-04-200_060704_E1
B-04-205	Brook Stickleback	1			B-04-205_070704_E1
B-04-205	Common Shiner	1			B-04-205_070704_E1
B-04-205	Creek Chub	4			B-04-205_070704_E1
B-04-205	Fathead Minnow	21			B-04-205_070704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-205	Finescale Dace	2			B-04-205_070704_E1
B-04-205	Pearl Dace	2			B-04-205_070704_E1
B-04-205	Western Blacknose Dace	8			B-04-205_070704_E1
B-04-205	White Sucker	5	90-117	3 female, 2 male	B-04-205_070704_E1
B-04-211	Brook Stickleback	3		Released	B-04-211_070704_E1
B-04-211	Fathead Minnow	2		Released	B-04-211_070704_E1
B-04-214	Brook Stickleback	1			B-04-214_070704_E1
B-04-214	Fathead Minnow	7			B-04-214_070704_E1
B-04-215	Fathead Minnow	1			B-04-215_070704_E1
B-04-215	White Sucker	23	16-17*	All YOY	B-04-215_070704_E1
B-04-217	Creek Chub	1			B-04-217_080704_E1
B-04-217	Fathead Minnow	1			B-04-217_080704_E1
B-04-217	Johnny Darter	2			B-04-217_080704_E1
B-04-217	Longnose Dace	5			B-04-217_080704_E1
B-04-217	Western Blacknose Dace	6			B-04-217_080704_E1
B-04-217	White Sucker	2	106-124		B-04-217_080704_E1
B-04-218	Common Shiner	3			B-04-218_080704_E1
B-04-218	Creek Chub	12		Released 2 (190, 150 mm)	B-04-218_080704_E1
B-04-218	Fathead Minnow	3			B-04-218_080704_E1
B-04-218	Johnny Darter	12			B-04-218_080704_E1
B-04-218	Western Blacknose Dace	21			B-04-218_080704_E1
B-04-218	White Sucker	3	72-114	114mm is immature male	B-04-218_080704_E1
B-04-219	Common Shiner	10			B-04-219_080704_E1
B-04-219	Creek Chub	8			B-04-219_080704_E1
B-04-219	Fathead Minnow	5			B-04-219_080704_E1
B-04-219	Johnny Darter	1			B-04-219_080704_E1
B-04-219	Western Blacknose Dace	11			B-04-219_080704_E1
B-04-219	White Sucker	2	105, 126	126 mm is an immature male	B-04-219_080704_E1
B-04-220	Common Shiner	1			B-04-220_080704_E1
B-04-220	Creek Chub	24			B-04-220_080704_E1
B-04-220	Fathead Minnow	1			B-04-220_080704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-220	Longnose Dace	9			B-04-220_080704_E1
B-04-220	Western Blacknose Dace	11			B-04-220_080704_E1
B-04-220	White Sucker	3	91-102		B-04-220_080704_E1
B-04-223	Brook Stickleback	1			B-04-223_090704_E1
B-04-223	Fathead Minnow	5			B-04-223_090704_E1
B-04-223	Finescale Dace	15			B-04-223_090704_E1
B-04-224	Creek Chub	9		Released 1 (210 mm)	B-04-224_130704_E1
B-04-224	Fathead Minnow	7			B-04-224_130704_E1
B-04-224	Johnny Darter	2			B-04-224_130704_E1
B-04-224	Longnose Dace	8			B-04-224_130704_E1
B-04-224	Western Blacknose Dace	14			B-04-224_130704_E1
B-04-224	White Sucker	4	99-156	1 female, 3 male	B-04-224_130704_E1
B-04-225	Brook Stickleback	12			B-04-225_130704_E1
B-04-225	Common Shiner	3		Released 1 (140 mm)	B-04-225_130704_E1
B-04-225	Western Blacknose Dace	2			B-04-225_130704_E1
B-04-225	White Sucker	8	15-18*	All YOY	B-04-225_130704_E1
B-04-226	Fathead Minnow	1			B-04-226_130704_B1
B-04-226	White Sucker	9	28-33*	All YOY	B-04-226_130704_B1
B-04-228	Brook Stickleback	3		Released	B-04-228_130704_E1
B-04-229	Brook Stickleback	4		Released	B-04-229_140704_D1
B-04-230	Brook Stickleback	6			B-04-230_140704_E1
B-04-230	Fathead Minnow	2			B-04-230_140704_E1
B-04-230	Pearl Dace	7		4 are YOY	B-04-230_140704_E1
B-04-230	White Sucker	1	90		B-04-230_140704_E1
B-04-231	Brook Stickleback	2			B-04-231_140704_E1
B-04-231	Fathead Minnow	7		Male with spawning color	B-04-231_140704_E1
B-04-231	Western Blacknose Dace	2			B-04-231_140704_E1
B-04-232	Creek Chub	2			B-04-232_140704_E1
B-04-232	Fathead Minnow	1			B-04-232_140704_E1
B-04-232	Pearl Dace	1			B-04-232_140704_E1
B-04-232	White Sucker	1	113	Immature male	B-04-232_140704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-238	Common Shiner	5			B-04-238_140704_E1
B-04-238	Finescale Dace	1			B-04-238_140704_E1
B-04-238	Longnose Dace	2			B-04-238_140704_E1
B-04-238	Western Blacknose Dace	5			B-04-238_140704_E1
B-04-238	White Sucker	5	17-23*	All YOY	B-04-238_140704_E1
B-04-240	Brook Stickleback	1			B-04-240_150704_E1
B-04-240	Common Shiner	5		4 juveniles	B-04-240_150704_E1
B-04-240	Creek Chub	1		Juvenile	B-04-240_150704_E1
B-04-240	Fathead Minnow	11			B-04-240_150704_E1
B-04-240	Finescale Dace	29			B-04-240_150704_E1
B-04-240	Western Blacknose Dace	4			B-04-240_150704_E1
B-04-240	White Sucker	6	51-87	Juveniles	B-04-240_150704_E1
B-04-241	Brassy Minnow	5			B-04-241_190704_B1
B-04-241	Brassy Minnow	13			B-04-241_190704_E1
B-04-241	Common Shiner	32			B-04-241_190704_B1
B-04-241	Common Shiner	34			B-04-241_190704_E1
B-04-241	Creek Chub	5		Plus one *Orconectes virilis*	B-04-241_190704_B1
B-04-241	Creek Chub	7			B-04-241_190704_E1
B-04-241	Fathead Minnow	2			B-04-241_190704_B1
B-04-241	Longnose Dace	1			B-04-241_190704_E1
B-04-241	Pearl Dace	1			B-04-241_190704_E1
B-04-241	Pearl Dace	1			B-04-241_190704_B1
B-04-241	Western Blacknose Dace	2			B-04-241_190704_B1
B-04-241	Western Blacknose Dace	5			B-04-241_190704_E1
B-04-241	White Sucker	4	45-144	144 mm is an immature male	B-04-241_190704_B1
B-04-241	White Sucker	5	36*-123	3 are YOY	B-04-241_190704_E1
B-04-244	Common Shiner	7			B-04-244_200704_E1
B-04-244	Creek Chub	2			B-04-244_200704_E1
B-04-244	Fathead Minnow	3			B-04-244_200704_E1
B-04-244	Johnny Darter	2			B-04-244_200704_E1
B-04-244	Longnose Dace	3			B-04-244_200704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-244	River Darter	3			B-04-244_200704_E1
B-04-244	Western Blacknose Dace	1			B-04-244_200704_E1
B-04-248	Golden Shiner	8			B-04-248_200704_B1
B-04-248	Northern Pike	1	148		B-04-248_200704_B1
B-04-249	Northern Pike	4	110-144		B-04-249_200704_B1
B-04-250	No Catch				B-04-250_200704_B1
B-04-257	Black Bullhead	1		Released	B-04-257_210704_B1
B-04-257	Fathead Minnow	4			B-04-257_210704_B1
B-04-257	Golden Shiner	121			B-04-257_210704_B1
B-04-257	Hybrid	3		Possible Fathead Minnow X Common Shiner hybrid, dorsal fin ray problem	B-04-257_210704_B1
B-04-257	Northern Pike	14	97-130	All YOY	B-04-257_210704_B1
B-04-257	Yellow Perch	8	38*-103	1 YOY	B-04-257_210704_B1
B-04-259	No Catch				B-04-259_210704_B1
B-04-263	Fathead Minnow			Beach seine failed observed several Fathead Minnows escape	B-04-263_220704_B1
B-04-263	Brook Stickleback			Beach seine failed observed several Brook Sticklebacks escape	B-04-263_220704_B1
B-04-264	Brook Stickleback	8		Released	B-04-264_220704_B1
B-04-264	Fathead Minnow	30		Released	B-04-264_220704_B1
B-04-266	Brook Stickleback	19		17 YOY	B-04-266_260704_E1
B-04-266	Common Shiner	27		Plus one *Orconectes virilis* YOY	B-04-266_260704_E1
B-04-266	Creek Chub	8		All YOY	B-04-266_260704_E1
B-04-266	White Sucker	5	20-29*	All YOY	B-04-266_260704_E1
B-04-270	No Catch				B-04-270_040804_B1
B-04-270	No Catch				B-04-270_040804_E1
B-04-272	Spottail Shiner	100's		Many below gated box culvert	B-04-272_040804_O1
B-04-272	Walleye	1	200	Observed	B-04-272_040804_O1
B-04-275	No Catch				B-04-275_050804_B1
B-04-276	Spottail Shiner	4		Released	B-04-276_050804_E1
B-04-280	Brook Stickleback	12			B-04-280_050804_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
B-04-280	Fathead Minnow	5			B-04-280_050804_B1
B-04-286	Northern Pike			Observed	B-04-286_060804_O1
B-04-287	Northern Pike	2		Small Northern Pike observed under bridge	B-04-287_060804_O1
D-04-011	No Catch				D-04-011_020604_E1
D-04-012	Brook Stickleback	32			D-04-012_020604_E1
D-04-012	Common Shiner	16			D-04-012_020604_E1
D-04-012	Creek Chub	8			D-04-012_020604_E1
D-04-012	Fathead Minnow	63			D-04-012_020604_E1
D-04-012	Longnose Dace	3			D-04-012_020604_E1
D-04-012	Western Blacknose Dace	19			D-04-012_020604_E1
D-04-012	White Sucker	5	55-107		D-04-012_020604_E1
D-04-013	Northern Pike	78	13-29*		D-04-013_030604_L1
D-04-013	Iowa Darter	1			D-04-013_030604_L1
D-04-015	No Catch				D-04-015_070604_L1
D-04-016	Northern Pike	9	17-28*	YOY, measured to tip of notocord extension	D-04-016_080604_L1
D-04-017	No Catch				D-04-017_090604_E1
D-04-020	No Catch				D-04-020_100604_L1
D-04-021	No Catch				D-04-021_140604_L1
D-04-022	Fathead Minnow	7		Released	D-04-022_150604_E1
D-04-023	Bigmouth Shiner	1			D-04-023_150604_E1
D-04-023	Black Bullhead	1	125*		D-04-023_150604_E1
D-04-023	Brassy Minnow	2			D-04-023_150604_E1
D-04-023	Brook Stickleback	1			D-04-023_150604_E1
D-04-023	Common Shiner	15			D-04-023_150604_E1
D-04-023	Creek Chub	6			D-04-023_150604_E1
D-04-023	Fathead Minnow	17			D-04-023_150604_E1
D-04-023	Hybrid	1		42 lateral line scales, dusky peritoneum, plus no barbel, Creek Chub x Brassy Minnow hybrids	D-04-023_150604_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-04-023	Hybrid	1		44 lateral line scales, also no barbel, pale peritoneum, Creek Chub x Common Shiner hybrids	D-04-023_150604_E1
D-04-023	Johnny Darter	4		1 spawning male	D-04-023_150604_E1
D-04-023	Longnose Dace	1			D-04-023_150604_E1
D-04-023	Western Blacknose Dace	35			D-04-023_150604_E1
D-04-023	White Sucker	14	71-127	127 is a mature female, rest are males	D-04-023_150604_E1
D-04-027	Bigmouth Shiner	4			D-04-027_150604_E1
D-04-027	Blackside Darter	3			D-04-027_150604_E1
D-04-027	Brassy Minnow	1			D-04-027_150604_E1
D-04-027	Common Shiner	23			D-04-027_150604_E1
D-04-027	Creek Chub	10			D-04-027_150604_E1
D-04-027	Fathead Minnow	7			D-04-027_150604_E1
D-04-027	Johnny Darter	2			D-04-027_150604_E1
D-04-027	Western Blacknose Dace	3			D-04-027_150604_E1
D-04-027	White Sucker	2	57, 62		D-04-027_150604_E1
D-04-028	Black Crappie	5	70-110	Released	D-04-028_160604_E1
D-04-028	Creek Chub	5	up to 169	Mature, ripe adults present	D-04-028_160604_E1
D-04-028	Fathead Minnow	8			D-04-028_160604_E1
D-04-028	Northern Pike	1	300	Released	D-04-028_160604_E1
D-04-028	White Sucker	12	48-89		D-04-028_160604_E1
D-04-029	Black Crappie	4	69-120	Released 1 (120 mm)	D-04-029_160604_E1
D-04-029	Brook Stickleback	21			D-04-029_160604_E1
D-04-029	Fathead Minnow	94			D-04-029_160604_E1
D-04-029	Northern Pike	1	650	Released	D-04-029_160604_E1
D-04-033	Fathead Minnow	2		Released	D-04-033_230604_E1
D-04-034	No Catch			Invertebrates only	D-04-034_230604_E1
D-04-035	Fathead Minnow	1			D-04-035_230604_E1
D-04-035	Northern Redbelly Dace	1			D-04-035_230604_E1
D-04-035	White Sucker	4	51-98		D-04-035_230604_E1
D-04-036	Brown Trout	3	203-269	Released	D-04-036_070704_E1

Appendix 5: List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-04-036	Common Shiner	1			D-04-036_070704_E1
D-04-036	Creek Chub	12		Released 10	D-04-036_070704_E1
D-04-036	Johnny Darter	11		Released 10	D-04-036_070704_E1
D-04-036	Longnose Dace	14		Released 10	D-04-036_070704_E1
D-04-036	Pearl Dace	1			D-04-036_070704_E1
D-04-036	Western Blacknose Dace	23		Released 20	D-04-036_070704_E1
D-04-036	White Sucker	4	60, 96	Released 2, 96 mm is immature female	D-04-036_070704_E1
W-04-001	White Sucker	100's		Congregated on spawning riffle upstream and downstream from crossing	W-04-001_030504_O1
W-04-004	White Sucker	100's		Congregated on spawning riffle	W-04-004_030504_O1
W-04-005	White Sucker	4		Stranded in pool, 2 dead and 2 alive	W-04-005_030504_O1
W-04-006	No Catch				W-04-006_030504_E1
W-04-007	White Sucker	100's		Congregated on spawning riffle	W-04-007_030504_O1
W-04-009	No Catch				W-04-009_040504_E1
W-04-013	No Catch				W-04-013_040504_B1
W-04-020	No Catch				W-04-020_050504_B1
W-04-027	No Catch				W-04-027_050504_E1
W-04-032	Northern Pike	3		3 other Northern Pike observed	W-04-032_060504_E1
W-04-036	No Catch				W-04-036_060504_E1
W-04-039	Fathead Minnow	12			W-04-039_100504_E1
W-04-039	Northern Pike	1	400	Released	W-04-039_100504_E1
W-04-039	Spottail Shiner	16		3 mature, 12 in pre-spawn condition	W-04-039_100504_E1
W-04-039	White Sucker	2	390, 430	Released	W-04-039_100504_E1
W-04-040	Fathead Minnow	22			W-04-040_100504_E1
W-04-040	White Sucker	7	286-407	Released	W-04-040_100504_E1
W-04-041	No Catch				W-04-041_110504_E1
W-04-043	White Sucker	7	355-395	Released	W-04-043_110504_E1
W-04-044	White Sucker	3		3 White Sucker observed	W-04-044_110504_E1
W-04-049	Central Mudminnow	2			W-04-049_110504_E1
W-04-049	Fathead Minnow	14			W-04-049_110504_E1

Appendix 5: List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-049	Eggs			Sucker eggs, most likely White Sucker. Invertebrates in sample	W-04-049_110504_K1
W-04-050	Brook Stickleback	2			W-04-050_110504_E1
W-04-050	Central Mudminnow	8			W-04-050_110504_E1
W-04-050	Fathead Minnow	8			W-04-050_110504_E1
W-04-050	Pearl Dace	1			W-04-050_110504_E1
W-04-051	Central Mudminnow	2			W-04-051_120504_E1
W-04-051	Spottail Shiner	11			W-04-051_120504_E1
W-04-051	White Sucker	1		Adult released	W-04-051_120504_E1
W-04-052	Brook Stickleback	1			W-04-052_120504_E1
W-04-052	Central Mudminnow	17			W-04-052_120504_E1
W-04-052	Fathead Minnow	1			W-04-052_120504_E1
W-04-053	No Catch				W-04-053_180504_E1
W-04-054	White Sucker	3	190-400	Released	W-04-054_180504_E1
W-04-055	Brook Stickleback	1			W-04-055_180504_E1
W-04-055	Fathead Minnow	6			W-04-055_180504_E1
W-04-056	No Catch				W-04-056_180504_E1
W-04-057	Fathead Minnow	8			W-04-057_180504_E1
W-04-058	No Catch				W-04-058_180504_E1
W-04-059	No Catch				W-04-059_200504_E1
W-04-060	Fathead Minnow	4			W-04-060_200504_E1
W-04-060	Pearl Dace	1			W-04-060_200504_E1
W-04-060	White Sucker	1	116		W-04-060_200504_E1
W-04-063	No Catch				W-04-063_200504_E1
W-04-069	No Catch				W-04-069_210504_E1
W-04-070	No Catch				W-04-070_210504_E1
W-04-071	No Catch				W-04-071_210504_E1
W-04-072	Longnose Dace	1		Plus *Orconectes virilis*	W-04-072_250504_E1
W-04-074	Brook Stickleback	5			W-04-074_250504_E1
W-04-074	Fathead Minnow	3			W-04-074_250504_E1
W-04-074	No Catch			Invertebrates: Annelids, Dipteran larvae	W-04-074_250504_K1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-076	Fathead Minnow	1			W-04-076_250504_E1
W-04-077	Central Mudminnow	1		Released	W-04-077_260504_E1
W-04-077	No Catch				W-04-077_260504_L1
W-04-078	Brook Stickleback	3			W-04-078_260504_E1
W-04-078	Central Mudminnow	8			W-04-078_260504_E1
W-04-082	No Catch				W-04-082_260504_E1
W-04-082	No Catch				W-04-082_260504_L1
W-04-083	Central Mudminnow	9			W-04-083_270504_E1
W-04-083	Fathead Minnow	8			W-04-083_270504_E1
W-04-083	No Catch				W-04-083_270504_K1
W-04-083	No Catch				W-04-083_270504_L1
W-04-084	Common Shiner	3			W-04-084_270504_E1
W-04-084	Unidentified sucker	1	12*	Unidentified larval suckers	W-04-084_270504_D1
W-04-085	Northern Pike	2	22, 24*	Also unidentified amphibian eggs, Gastropod eggs, large Dipteran larvae, and small Coleoptera larvae	W-04-085_280504_B1
W-04-087	Northern Pike	8	17-25*		W-04-087_280504_L1
W-04-088	No Catch				W-04-088_280504_E1
W-04-088	Northern Pike	4	16-19*		W-04-088_280504_L1
W-04-090	Brook Stickleback	38			W-04-090_010604_E1
W-04-090	Central Mudminnow	30			W-04-090_010604_E1
W-04-090	Fathead Minnow	8			W-04-090_010604_E1
W-04-090	No Catch			Invertebrates only	W-04-090_010604_L1
W-04-092	Brook Stickleback	1			W-04-092_010604_L1
W-04-092	Central Mudminnow	1			W-04-092_010604_E1
W-04-092	No Catch			Possibly one unidentified fish egg	W-04-092_010604_L1
W-04-093	Central Mudminnow	7			W-04-093_010604_E1
W-04-093	No Catch			Invertebrates only	W-04-093_010604_L1
W-04-093	Northern Redbelly Dace	2			W-04-093_010604_E1
W-04-094	Brook Stickleback	11			W-04-094_020604_E1
W-04-094	Central Mudminnow	9			W-04-094_020604_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-094	Iowa Darter	2			W-04-094_020604_E1
W-04-094	No Catch			Invertebrates only	W-04-094_020604_L1
W-04-094	Northern Redbelly Dace	6			W-04-094_020604_E1
W-04-095	Brook Stickleback	36			W-04-095_020604_E1
W-04-095	Central Mudminnow	7			W-04-095_020604_E1
W-04-095	Hybrid	1		Finescale Dace and Northern Redbelly Dace hybrid	W-04-095_020604_E1
W-04-095	Northern Redbelly Dace	9			W-04-095_020604_E1
W-04-095	White Sucker	4	53-59		W-04-095_020604_E1
W-04-097	Brook Stickleback	4			W-04-097_020604_E1
W-04-097	Central Mudminnow	2			W-04-097_020604_E1
W-04-097	Northern Redbelly Dace	5			W-04-097_020604_E1
W-04-097	Pearl Dace	7			W-04-097_020604_E1
W-04-102	Central Mudminnow	1			W-04-102_030604_E1
W-04-102	Fathead Minnow	1			W-04-102_030604_E1
W-04-102	No Catch			Invertebrates plus 2 tadpoles	W-04-102_030604_K1
W-04-102	Northern Redbelly Dace	1			W-04-102_030604_E1
W-04-105	Central Mudminnow	2			W-04-105_030604_E1
W-04-105	Fathead Minnow	2			W-04-105_030604_E1
W-04-105	Northern Redbelly Dace	3			W-04-105_030604_E1
W-04-106	Brook Stickleback	1			W-04-106_030604_E1
W-04-106	Central Mudminnow	1			W-04-106_030604_E1
W-04-109	Central Mudminnow	12			W-04-109_040604_E1
W-04-109	Fathead Minnow	5			W-04-109_040604_E1
W-04-109	No Catch				W-04-109_040604_K1
W-04-110	Central Mudminnow	1			W-04-110_040604_E1
W-04-111	Fathead Minnow	1			W-04-111_040604_E1
W-04-113	Fathead Minnow	25			W-04-113_050604_E1
W-04-113	White Sucker	1	67		W-04-113_050604_E1
W-04-114	Brook Stickleback	2			W-04-114_050604_E1
W-04-114	Central Mudminnow	3			W-04-114_050604_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-115	No Catch				W-04-115_050604_E1
W-04-116	Fathead Minnow	30		3 spawning males	W-04-116_050604_E1
W-04-116	White Sucker	4	57-91	57 mm is an immature male	W-04-116_050604_E1
W-04-119	No Catch				W-04-119_080604_E1
W-04-120	Blackside Darter	1			W-04-120_080604_E1
W-04-120	Brook Stickleback	3			W-04-120_080604_E1
W-04-120	Central Mudminnow	2			W-04-120_080604_E1
W-04-120	Fathead Minnow	24			W-04-120_080604_E1
W-04-120	Johnny Darter	2			W-04-120_080604_E1
W-04-120	Longnose Dace	3			W-04-120_080604_E1
W-04-120	Northern Redbelly Dace	5			W-04-120_080604_E1
W-04-120	White Sucker	2	83, 128		W-04-120_080604_E1
W-04-121	No Catch				W-04-121_080604_E1
W-04-124	No Catch				W-04-124_080604_E1
W-04-126	Brook Stickleback	19			W-04-126_090604_E1
W-04-126	Central Mudminnow	12			W-04-126_090604_E1
W-04-126	Fathead Minnow	4			W-04-126_090604_E1
W-04-126	Finescale Dace	1			W-04-126_090604_E1
W-04-126	Northern Redbelly Dace	55			W-04-126_090604_E1
W-04-129	Brook Stickleback	1			W-04-129_090604_E1
W-04-132	Brook Stickleback	1			W-04-132_090604_E1
W-04-132	Fathead Minnow	1			W-04-132_090604_E1
W-04-135	Fathead Minnow	5			W-04-135_090604_E1
W-04-137	No Catch				W-04-137_100604_E1
W-04-149	Northern Pike	1	305	Released	W-04-149_140604_B1
W-04-151	Fathead Minnow	16		Male with spawning color	W-04-151_140604_E1
W-04-151	Northern Pike	1	68		W-04-151_140604_E1
W-04-153	Brook Stickleback	11			W-04-153_150604_E1
W-04-153	Fathead Minnow	17		Male with spawning color	W-04-153_150604_E1
W-04-157	No Catch				W-04-157_160604_E1
W-04-159	Brook Stickleback	1			W-04-159_160604_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-159	Fathead Minnow	3			W-04-159_160604_E1
W-04-166	Northern Pike	1	68		W-04-166_170604_E1
W-04-167	Brook Stickleback	1			W-04-167_170604_E1
W-04-167	Fathead Minnow	16			W-04-167_170604_E1
W-04-171	Brook Stickleback	4			W-04-171_170604_E1
W-04-171	Fathead Minnow	111			W-04-171_170604_E1
W-04-172	Fathead Minnow	9			W-04-172_170604_E1
W-04-173	Fathead Minnow	12		Male with spawning colors	W-04-173_180604_E1
W-04-173	Northern Pike	3	87	Released 2 YOY	W-04-173_180604_E1
W-04-174	Brook Stickleback	1			W-04-174_180604_E1
W-04-175	Central Mudminnow	1			W-04-175_210604_E1
W-04-175	Northern Pike	4	56-74	Released 1	W-04-175_210604_E1
W-04-175	Spottail Shiner	2			W-04-175_210604_E1
W-04-176	Brook Stickleback	39			W-04-176_210604_E1
W-04-176	Central Mudminnow	2			W-04-176_210604_E1
W-04-176	Fathead Minnow	1		Spawning male	W-04-176_210604_E1
W-04-176	Finescale Dace	7			W-04-176_210604_E1
W-04-176	Unidentified minnow	3		2 post-larva, 1 YOY	W-04-176_210604_E1
W-04-177	Brook Stickleback	12			W-04-177_210604_E1
W-04-177	Central Mudminnow	2			W-04-177_210604_E1
W-04-177	Fathead Minnow	2			W-04-177_210604_E1
W-04-177	Finescale Dace	4			W-04-177_210604_E1
W-04-177	Northern Redbelly Dace	4			W-04-177_210604_E1
W-04-178	Brook Stickleback	2			W-04-178_210604_E1
W-04-178	Central Mudminnow	1			W-04-178_210604_E1
W-04-179	Brook Stickleback	3			W-04-179_220604_E1
W-04-179	Central Mudminnow	1			W-04-179_220604_E1
W-04-179	Fathead Minnow	3			W-04-179_220604_E1
W-04-180	No Catch				W-04-180_220604_B1
W-04-181	Northern Pike	4	30-34*		W-04-181_220604_E1
W-04-182	Northern Pike	3	28-30*		W-04-182_220604_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-184	No Catch				W-04-184_220604_E1
W-04-186	Central Mudminnow	2			W-04-186_230604_E1
W-04-186	Fathead Minnow	1			W-04-186_230604_E1
W-04-187	Brook Stickleback	2			W-04-187_230604_E1
W-04-187	Fathead Minnow	2			W-04-187_230604_E1
W-04-192	Brook Stickleback	1			W-04-192_240604_E1
W-04-192	Burbot	1	186		W-04-192_240604_E1
W-04-192	Emerald Shiner	1			W-04-192_240604_E1
W-04-193	No Catch				W-04-193_240604_E1
W-04-195	Brook Stickleback	16			W-04-195_250604_E1
W-04-195	Central Mudminnow	5			W-04-195_250604_E1
W-04-195	Fathead Minnow	13			W-04-195_250604_E1
W-04-197	Central Mudminnow	2			W-04-197_250604_E1
W-04-197	Fathead Minnow	1			W-04-197_250604_E1
W-04-197	Finescale Dace	7			W-04-197_250604_E1
W-04-197	Northern Redbelly Dace	4			W-04-197_250604_E1
W-04-197	White Sucker	1	252	Released	W-04-197_250604_E1
W-04-200	Brook Stickleback	9			W-04-200_290604_E1
W-04-202	Brook Stickleback	2			W-04-202_290604_B1
W-04-202	White Sucker	24	18-217	23 are YOY, 217 mm is an immature male	W-04-202_290604_B1
W-04-203	Fathead Minnow	6			W-04-203_290604_E1
W-04-207	Brook Stickleback	14			W-04-207_050704_E1
W-04-207	Central Mudminnow	2			W-04-207_050704_E1
W-04-207	Finescale Dace	2			W-04-207_050704_E1
W-04-207	Northern Redbelly Dace	1			W-04-207_050704_E1
W-04-207	Pearl Dace	15			W-04-207_050704_E1
W-04-207	Unidentified minnow	27		Post-larvae (may be Pearl Dace)	W-04-207_050704_E1
W-04-208	Brook Stickleback	30			W-04-208_050704_E1
W-04-208	Central Mudminnow	31			W-04-208_050704_E1
W-04-208	Iowa Darter	1			W-04-208_050704_E1
W-04-208	No Catch			Invertebrates only	W-04-208_050704_K1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-208	Pearl Dace	14			W-04-208_050704_E1
W-04-211	Central Mudminnow	3			W-04-211_050704_E1
W-04-211	Common Shiner	16			W-04-211_050704_E1
W-04-211	Fathead Minnow	3			W-04-211_050704_E1
W-04-211	Northern Redbelly Dace	7			W-04-211_050704_E1
W-04-211	Stonecat	1			W-04-211_050704_E1
W-04-211	White Sucker	1	70		W-04-211_050704_E1
W-04-212	Northern Pike	2	88	Released 1 (80 mm)	W-04-212_060704_E1
W-04-213	Johnny Darter	3			W-04-213_060704_E1
W-04-213	Longnose Dace	1			W-04-213_060704_E1
W-04-213	Northern Pike	1	90		W-04-213_060704_E1
W-04-216	Central Mudminnow	2			W-04-216_060704_E1
W-04-216	Common Shiner	2			W-04-216_060704_E1
W-04-216	Fathead Minnow	1			W-04-216_060704_E1
W-04-216	Northern Pike	1	97		W-04-216_060704_E1
W-04-216	White Sucker	1	23	YOY	W-04-216_060704_E1
W-04-217	Brook Stickleback	15			W-04-217_060704_E1
W-04-217	Central Mudminnow	8			W-04-217_060704_E1
W-04-217	Fathead Minnow	1			W-04-217_060704_E1
W-04-217	Johnny Darter	8			W-04-217_060704_E1
W-04-217	Pearl Dace	12			W-04-217_060704_E1
W-04-217	White Sucker	5	57-143		W-04-217_060704_E1
W-04-218	Burbot	1	31	YOY	W-04-218_060704_E1
W-04-218	Central Mudminnow	7			W-04-218_060704_E1
W-04-218	Common Shiner	3			W-04-218_060704_E1
W-04-218	Fathead Minnow	1			W-04-218_060704_E1
W-04-218	Hornyhead Chub	1			W-04-218_060704_E1
W-04-218	White Sucker	2	72, 86		W-04-218_060704_E1
W-04-225	Brook Stickleback	1			W-04-225_070704_E1
W-04-225	Common Shiner	5			W-04-225_070704_E1
W-04-225	Fathead Minnow	3			W-04-225_070704_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-225	Finescale Dace	6			W-04-225_070704_E1
W-04-225	Hornyhead Chub	1			W-04-225_070704_E1
W-04-225	Johnny Darter	4			W-04-225_070704_E1
W-04-225	Pearl Dace	3			W-04-225_070704_E1
W-04-225	White Sucker	9	19-255	Released 3 (150-255 mm)	W-04-225_070704_E1
W-04-231	Brook Stickleback	1			W-04-231_080704_E1
W-04-231	Central Mudminnow	26			W-04-231_080704_E1
W-04-231	No Catch			Invertebrates only	W-04-231_080704_K1
W-04-231	Northern Pike	3	76-87	Released 1 (76 mm)	W-04-231_080704_E1
W-04-232	Central Mudminnow	8			W-04-232_080704_E1
W-04-232	Northern Pike	4	93-250	Released 2 (102, 250 mm)	W-04-232_080704_E1
W-04-233	No Catch				W-04-233_130704_E1
W-04-234	Brook Stickleback	30			W-04-234_130704_E1
W-04-234	Finescale Dace	54		45 are YOY	W-04-234_130704_E1
W-04-234	Western Blacknose Dace	3			W-04-234_130704_E1
W-04-235	No Catch			Invertebrates only	W-04-235_130704_K1
W-04-237	Brook Stickleback	8			W-04-237_130704_E1
W-04-237	Finescale Dace	47		43 are YOY	W-04-237_130704_E1
W-04-238	Brook Stickleback	27			W-04-238_130704_E1
W-04-238	Fathead Minnow	2			W-04-238_130704_E1
W-04-238	Hybrid	22		Hybrid swarm of Finescale Dace, Northern Redbelly Dace, and Pearl Dace; none could be identified to species	W-04-238_130704_E1
W-04-238	Logperch	1			W-04-238_130704_E1
W-04-239	Brook Stickleback	89		Many are YOY	W-04-239_130704_E1
W-04-239	Fathead Minnow	2			W-04-239_130704_E1
W-04-239	Northern Pike	1	110		W-04-239_130704_E1
W-04-239	Pearl Dace	2			W-04-239_130704_E1
W-04-244	Common Carp	100's		Observed in pool	W-04-244_140704_O1
W-04-245	Common Carp	100's		Observed in pool	W-04-245_140704_O1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-246	Common Carp	100's		Observed upstream and downstream from culverts	W-04-246_140704_O1
W-04-249	Brook Stickleback	1			W-04-249_140704_E1
W-04-249	Creek Chub	19			W-04-249_140704_E1
W-04-249	Fathead Minnow	7			W-04-249_140704_E1
W-04-249	Finescale Dace	2			W-04-249_140704_E1
W-04-249	Johnny Darter	3			W-04-249_140704_E1
W-04-249	Northern Redbelly Dace	15			W-04-249_140704_E1
W-04-249	Pearl Dace	2			W-04-249_140704_E1
W-04-249	Western Blacknose Dace	9			W-04-249_140704_E1
W-04-250	Brook Stickleback	124			W-04-250_140704_E1
W-04-250	Creek Chub	39			W-04-250_140704_E1
W-04-250	Fathead Minnow	6			W-04-250_140704_E1
W-04-250	Finescale Dace	2			W-04-250_140704_E1
W-04-250	Johnny Darter	2			W-04-250_140704_E1
W-04-250	No Catch			Invertebrates only	W-04-250_140704_K1
W-04-250	White Sucker	2	49, 91		W-04-250_140704_E1
W-04-252	Creek Chub	14			W-04-252_150704_E1
W-04-252	Fathead Minnow	1			W-04-252_150704_E1
W-04-252	Finescale Dace	4			W-04-252_150704_E1
W-04-252	Johnny Darter	3			W-04-252_150704_E1
W-04-252	Pearl Dace	5			W-04-252_150704_E1
W-04-252	Western Blacknose Dace	12			W-04-252_150704_E1
W-04-252	White Sucker	1	174	Mature male	W-04-252_150704_E1
W-04-253	Brook Stickleback	8			W-04-253_150704_E1
W-04-253	Fathead Minnow	3			W-04-253_150704_E1
W-04-253	Johnny Darter	1			W-04-253_150704_E1
W-04-253	Northern Redbelly Dace	1			W-04-253_150704_E1
W-04-254	Common Shiner	8			W-04-254_150704_E1
W-04-254	Creek Chub	5			W-04-254_150704_E1
W-04-254	Finescale Dace	1			W-04-254_150704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-254	Johnny Darter	3			W-04-254_150704_E1
W-04-254	No Catch			Invertebrates only	W-04-254_150704_K1
W-04-254	Western Blacknose Dace	20			W-04-254_150704_E1
W-04-254	White Sucker	2	77, 80		W-04-254_150704_E1
W-04-255	Common Shiner	2			W-04-255_150704_E1
W-04-255	Creek Chub	2			W-04-255_150704_E1
W-04-255	Johnny Darter	4			W-04-255_150704_E1
W-04-255	Northern Redbelly Dace	1			W-04-255_150704_E1
W-04-255	Western Blacknose Dace	16			W-04-255_150704_E1
W-04-255	White Sucker	5	57-103	Released 1	W-04-255_150704_E1
W-04-256	Northern Pike	1	145		W-04-256_200704_E1
W-04-260	Brook Stickleback	7			W-04-260_210704_E1
W-04-260	Central Mudminnow	8			W-04-260_210704_E1
W-04-260	Iowa Darter	4			W-04-260_210704_E1
W-04-260	Northern Pike	2	76-146	Released 1 (76 mm)	W-04-260_210704_E1
W-04-262	Central Mudminnow	3			W-04-262_220704_E1
W-04-262	Iowa Darter	3			W-04-262_220704_E1
W-04-262	Northern Pike	2	117, 118		W-04-262_220704_E1
W-04-264	Central Mudminnow	2			W-04-264_220704_E1
W-04-264	Unidentified sucker	1		Unidentified post-larval stage	W-04-264_220704_E1
W-04-265	Central Mudminnow	1			W-04-265_220704_E1
W-04-265	Northern Pike	1	66	YOY	W-04-265_220704_E1
W-04-266	Black Bullhead	1			W-04-266_220704_E1
W-04-266	Central Mudminnow	7			W-04-266_220704_E1
W-04-266	Iowa Darter	4			W-04-266_220704_E1
W-04-266	Johnny Darter	1			W-04-266_220704_E1
W-04-266	No Catch			Invertebrates only	W-04-266_220704_K1
W-04-266	Northern Pike	3	98-203	Released 1 (203 mm)	W-04-266_220704_E1
W-04-266	Tadpole Madtom	1			W-04-266_220704_E1
W-04-266	Yellow Perch	1	90		W-04-266_220704_E1
W-04-269	Brook Stickleback	2			W-04-269_220704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-269	Central Mudminnow	4			W-04-269_220704_E1
W-04-271	White Sucker	3	32-33	YOY	W-04-271_230704_B1
W-04-274	Brook Stickleback	1		YOY	W-04-274_230704_E1
W-04-274	Iowa Darter	3			W-04-274_230704_E1
W-04-274	Johnny Darter	13			W-04-274_230704_E1
W-04-274	Northern Pike	4	105, 106	Released 2	W-04-274_230704_E1
W-04-274	Rock Bass	2	127	Released 1	W-04-274_230704_E1
W-04-274	White Sucker	3	73, 81	Released 1	W-04-274_230704_E1
W-04-277	Northern Pike	1	130	Observed 5 others	W-04-277_030804_E1
W-04-286	No Catch				W-04-286_030804_E1
W-04-287	Black Bullhead	30		Released 23	W-04-287_030804_E1
W-04-287	Central Mudminnow	1			W-04-287_030804_E1
W-04-287	Sand Shiner	9			W-04-287_030804_E1
W-04-287	Sauger	2	240, 280	Released	W-04-287_030804_E1
W-04-287	Spotfin Shiner	1			W-04-287_030804_E1
W-04-287	Troutperch	2			W-04-287_030804_E1
W-04-287	Yellow Perch	2	113, 117	Both look like maturing males	W-04-287_030804_E1
W-04-289	Black Bullhead	66		12 YOY, 40 juveniles released	W-04-289_040804_E1
W-04-289	Blackside Darter	7			W-04-289_040804_E1
W-04-289	Fathead Minnow	1			W-04-289_040804_E1
W-04-289	Johnny Darter	3		Juveniles	W-04-289_040804_E1
W-04-289	Northern Pike	1	90	Released	W-04-289_040804_E1
W-04-289	Sand Shiner	5		Adults	W-04-289_040804_E1
W-04-289	Troutperch	5		Released	W-04-289_040804_E1
W-04-289	White Sucker	3	157, 305, 457	Released 2 mature White Sucker	W-04-289_040804_E1
W-04-297	Bigmouth Shiner	1			W-04-297_050804_E1
W-04-297	Blackside Darter	5		Juveniles	W-04-297_050804_E1
W-04-297	Brassy Minnow	77			W-04-297_050804_E1
W-04-297	Common Shiner	32		7 YOY, 20 others released	W-04-297_050804_E1
W-04-297	Creek Chub	1			W-04-297_050804_E1
W-04-297	Fathead Minnow	5			W-04-297_050804_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-04-297	Johnny Darter	12		3 YOY	W-04-297_050804_E1
W-04-297	Longnose Dace	10			W-04-297_050804_E1
W-04-297	Sand Shiner	14		7 YOY	W-04-297_050804_E1
W-04-297	Troutperch	6		Juveniles	W-04-297_050804_E1
W-04-297	White Sucker	5		All YOY	W-04-297_050804_E1
W-04-298	Blackside Darter	1			W-04-298_050804_E1
W-04-298	Brassy Minnow	22		All YOY	W-04-298_050804_E1
W-04-298	Brook Stickleback	15			W-04-298_050804_E1
W-04-298	Common Shiner	10			W-04-298_050804_E1
W-04-298	Creek Chub	3			W-04-298_050804_E1
W-04-298	Fathead Minnow	192		All YOY	W-04-298_050804_E1
W-04-298	Troutperch	1			W-04-298_050804_E1
W-04-298	Western Blacknose Dace	11			W-04-298_050804_E1
W-04-298	White Sucker	17	44-55	Released 10	W-04-298_050804_E1
W-04-299	Blackside Darter	2			W-04-299_050804_E1
W-04-299	Brassy Minnow	14			W-04-299_050804_E1
W-04-299	Brook Stickleback	7			W-04-299_050804_E1
W-04-299	Common Carp	1		YOY	W-04-299_050804_E1
W-04-299	Common Shiner	25			W-04-299_050804_E1
W-04-299	Creek Chub	2		1 YOY	W-04-299_050804_E1
W-04-299	Fathead Minnow	3		2 YOY	W-04-299_050804_E1
W-04-299	Longnose Dace	13		3 YOY	W-04-299_050804_E1
W-04-299	Sand Shiner	9			W-04-299_050804_E1
W-04-299	Western Blacknose Dace	10		1 YOY, 1 mature	W-04-299_050804_E1
W-04-299	White Sucker	4	40-57		W-04-299_050804_E1
X-04-001	Brook Stickleback	1			X-04-001_050504_B1
X-04-001	Fathead Minnow	689			X-04-001_050504_B1
X-04-001	Sand Shiner	80			X-04-001_050504_B1
X-04-002	No Catch				X-04-002_050504_B1
X-04-005	No Catch				X-04-005_050504_E1
X-04-014	No Catch				X-04-014_060504_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-023	Fathead Minnow	28			X-04-023_100504_B1
X-04-026	Black Bullhead	2			X-04-026_100504_B1
X-04-026	Brook Stickleback	1			X-04-026_100504_B1
X-04-031	Fathead Minnow	3			X-04-031_100504_E1
X-04-031	No Catch				X-04-031_100504_B1
X-04-037	Brook Stickleback	1			X-04-037_140504_E1
X-04-037	Fathead Minnow	15			X-04-037_140504_E1
X-04-037	Johnny Darter	1			X-04-037_140504_E1
X-04-037	Yellow Perch	1	73		X-04-037_140504_E1
X-04-041	No Catch				X-04-041_140504_B1
X-04-041	No Catch				X-04-041_140504_L1
X-04-042	Brook Stickleback	1			X-04-042_140504_D1
X-04-042	Fathead Minnow	1			X-04-042_140504_D1
X-04-043	Eggs			Sucker eggs in one vial, invertebrates in a second vial	X-04-043_170504_K1
X-04-044	No Catch				X-04-044_170504_E1
X-04-046	No Catch				X-04-046_170504_E1
X-04-048	No Catch				X-04-048_180504_B1
X-04-048	No Catch				X-04-048_180504_E1
X-04-049	Brook Stickleback	3			X-04-049_180504_E1
X-04-051	Brook Stickleback	2			X-04-051_180504_E1
X-04-051	Central Mudminnow	9			X-04-051_180504_E1
X-04-052	Fathead Minnow	1			X-04-052_190504_B1
X-04-053	Brook Stickleback	1			X-04-053_200504_E1
X-04-053	Fathead Minnow	90			X-04-053_200504_E1
X-04-053	Iowa Darter	1			X-04-053_200504_E1
X-04-053	Spottail Shiner	4			X-04-053_200504_E1
X-04-053	White Sucker	15		Congregation of ripe, mature fish	X-04-053_200504_E1
X-04-054	Fathead Minnow	1			X-04-054_200504_E1
X-04-054	White Sucker	100's		Congregation of ripe, mature fish	X-04-054_200504_E1
X-04-055	White Sucker	100's		Congregation of ripe, mature fish	X-04-055_200504_O1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-056	White Sucker	100's		Congregation of ripe, mature fish	X-04-056_200504_O1
X-04-057	White Sucker	100's		Congregation of ripe, mature fish	X-04-057_200504_O1
X-04-058	White Sucker	100's		Congregation of ripe, mature fish	X-04-058_200504_O1
X-04-061	No Catch				X-04-061_200504_E1
X-04-065	Black Bullhead	8			X-04-065_210504_E1
X-04-065	Brook Stickleback	1			X-04-065_210504_E1
X-04-065	Common Carp	2			X-04-065_210504_E1
X-04-065	Fathead Minnow	10			X-04-065_210504_E1
X-04-065	Northern Pike	1	803	Released	X-04-065_210504_E1
X-04-065	River Shiner	10			X-04-065_210504_E1
X-04-065	Walleye	1	287	Released	X-04-065_210504_E1
X-04-066	White Sucker	2	48-642	Adults also observed	X-04-066_210504_E1
X-04-067	Brook Stickleback	1			X-04-067_250504_E1
X-04-067	Central Mudminnow	1			X-04-067_250504_E1
X-04-067	Fathead Minnow	11			X-04-067_250504_E1
X-04-067	White Sucker	1		Adult, dead on shore	X-04-067_250504_E1
X-04-068	White Sucker	100's		Many spawning at site so did not fish very much area	X-04-068_250504_E1
X-04-069	No Catch				X-04-069_250504_K1
X-04-071	Brook Stickleback	1			X-04-071_250504_E1
X-04-072	White Sucker	100's		Many observed downstream of riffle	X-04-072_250504_O1
X-04-074	No Catch				X-04-074_260504_E1
X-04-077	Central Mudminnow	3			X-04-077_260504_E1
X-04-078	Brook Stickleback	2			X-04-078_260504_E1
X-04-078	Central Mudminnow	2			X-04-078_260504_E1
X-04-078	Fathead Minnow	7			X-04-078_260504_E1
X-04-080	Black Crappie	3	45-80	Released	X-04-080_260504_E1
X-04-080	Fathead Minnow	20			X-04-080_260504_E1
X-04-080	Johnny Darter	1			X-04-080_260504_E1
X-04-080	Spotfin Shiner	1			X-04-080_260504_E1
X-04-081	Central Mudminnow	1			X-04-081_270504_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-081	Fathead Minnow	8			X-04-081_270504_E1
X-04-082	Fathead Minnow	2			X-04-082_270504_B1
X-04-084	No Catch				X-04-084_270504_E1
X-04-088	Fathead Minnow	1			X-04-088_270504_L1
X-04-090	Central Mudminnow	1			X-04-090_270504_E1
X-04-091	No Catch				X-04-091_280504_L1
X-04-091	Northern Pike	1		Adult, released	X-04-091_280504_E1
X-04-092	White Sucker	1		Ripe, pre-spawn male, 255 mm dwarf	X-04-092_280504_E1
X-04-094	Brook Stickleback	2			X-04-094_280504_E1
X-04-094	Fathead Minnow	19			X-04-094_280504_E1
X-04-095	Black Bullhead	1	205*	Released	X-04-095_010604_E1
X-04-095	Fathead Minnow	4			X-04-095_010604_E1
X-04-097	Brook Stickleback	1			X-04-097_010604_E1
X-04-097	Fathead Minnow	2			X-04-097_010604_E1
X-04-098	Brook Stickleback	1			X-04-098_010604_B1
X-04-098	Fathead Minnow	1			X-04-098_010604_B1
X-04-099	No Catch				X-04-099_010604_E1
X-04-101	Fathead Minnow	1		Released	X-04-101_010604_E1
X-04-102	Fathead Minnow	1			X-04-102_020604_E1
X-04-103	Common Carp	1	643	Released, many observed	X-04-103_020604_E1
X-04-103	No Catch			Invertebrates only	X-04-103_020604_K1
X-04-104	Common Carp	100's		Many observed downstream of riffle	X-04-104_020604_O1
X-04-105	Common Carp	100's		Many observed upstream of culvert	X-04-105_020604_O1
X-04-106	Brook Stickleback	1			X-04-106_030604_E1
X-04-106	Common Shiner	6			X-04-106_030604_E1
X-04-106	Creek Chub	9			X-04-106_030604_E1
X-04-106	Fathead Minnow	6			X-04-106_030604_E1
X-04-106	Johnny Darter	1		Age 1+	X-04-106_030604_E1
X-04-106	Sand Shiner	1			X-04-106_030604_E1
X-04-106	Western Blacknose Dace	5			X-04-106_030604_E1
X-04-106	White Sucker	1	130		X-04-106_030604_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-107	Brook Stickleback	1			X-04-107_030604_E1
X-04-107	Common Shiner	1			X-04-107_030604_E1
X-04-107	Common Shiner	20			X-04-107_030604_B1
X-04-107	Creek Chub	1			X-04-107_030604_E1
X-04-107	Fathead Minnow	3			X-04-107_030604_B1
X-04-107	Fathead Minnow	4			X-04-107_030604_E1
X-04-107	White Sucker	2		Observed swimming across ford crossing	X-04-107_030604_O1
X-04-109	No Catch				X-04-109_030604_E1
X-04-110	Brook Stickleback	37		Plus 1 *Anodonta grandis* empty shell	X-04-110_040604_E1
X-04-110	Central Mudminnow	2			X-04-110_040604_E1
X-04-110	Common Shiner	2			X-04-110_040604_E1
X-04-110	Creek Chub	3			X-04-110_040604_E1
X-04-110	Fathead Minnow	41			X-04-110_040604_E1
X-04-110	Pearl Dace	6			X-04-110_040604_E1
X-04-110	Western Blacknose Dace	10			X-04-110_040604_E1
X-04-110	White Sucker	2	56, 58		X-04-110_040604_E1
X-04-112	Black Bullhead	3			X-04-112_040604_E1
X-04-112	Fathead Minnow	1			X-04-112_040604_E1
X-04-112	White Sucker	4		Released 3 (150-255 mm)	X-04-112_040604_E1
X-04-113	No Catch				X-04-113_070604_E1
X-04-114	Blackside Darter	2			X-04-114_070604_E1
X-04-114	Brook Stickleback	4			X-04-114_070604_E1
X-04-114	Fathead Minnow	247			X-04-114_070604_E1
X-04-114	Iowa Darter	1			X-04-114_070604_E1
X-04-114	Johnny Darter	6		2 ripe males	X-04-114_070604_E1
X-04-114	No Catch				X-04-114_070604_K1
X-04-114	Sand Shiner	2			X-04-114_070604_E1
X-04-114	White Sucker	4	59-80		X-04-114_070604_E1
X-04-115	Brook Stickleback	1			X-04-115_070604_E1
X-04-115	Common Shiner	3			X-04-115_070604_E1
X-04-115	Creek Chub	5			X-04-115_070604_E1

Appendix 5: List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-115	Fathead Minnow	5			X-04-115_070604_E1
X-04-115	Finescale Dace	2		Possible hybrid with Pearl Dace	X-04-115_070604_E1
X-04-115	Western Blacknose Dace	8			X-04-115_070604_E1
X-04-116	Fathead Minnow	4			X-04-116_080604_E1
X-04-116	No Catch				X-04-116_080604_L1
X-04-118	Brook Stickleback	1			X-04-118_080604_E1
X-04-118	Common Shiner	1			X-04-118_080604_E1
X-04-118	Creek Chub	3			X-04-118_080604_E1
X-04-118	No Catch				X-04-118_080604_L1
X-04-118	White Sucker	1	95		X-04-118_080604_E1
X-04-119	Brook Stickleback	4			X-04-119_080604_E1
X-04-119	Creek Chub	1			X-04-119_080604_E1
X-04-119	Fathead Minnow	24			X-04-119_080604_E1
X-04-119	Western Blacknose Dace	2			X-04-119_080604_E1
X-04-119	White Sucker	1	61		X-04-119_080604_E1
X-04-120	No Catch				X-04-120_080604_E1
X-04-121	Common Carp	1	670	Released	X-04-121_080604_E1
X-04-121	Common Shiner	2			X-04-121_080604_E1
X-04-121	Creek Chub	2			X-04-121_080604_E1
X-04-121	Fathead Minnow	21			X-04-121_080604_E1
X-04-121	Western Blacknose Dace	3			X-04-121_080604_E1
X-04-121	White Sucker	1	62		X-04-121_080604_E1
X-04-122	Fathead Minnow	2			X-04-122_090604_E1
X-04-122	Northern Pike	7	40-55		X-04-122_090604_E1
X-04-122	Sand Shiner	2			X-04-122_090604_E1
X-04-122	White Sucker	1	13*	YOY	X-04-122_090604_E1
X-04-123	Fathead Minnow	1			X-04-123_090604_E1
X-04-123	Northern Pike	5	48-59	YOY	X-04-123_090604_E1
X-04-124	Fathead Minnow	5			X-04-124_090604_E1
X-04-126	Central Mudminnow	2			X-04-126_100604_E1
X-04-127	Common Carp	1	539		X-04-127_100604_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-127	Fathead Minnow	16			X-04-127_100604_E1
X-04-127	Northern Pike	1	347	Released	X-04-127_100604_E1
X-04-127	Rock Bass	3	221-262	Released	X-04-127_100604_E1
X-04-127	Spotfin Shiner	3			X-04-127_100604_E1
X-04-128	Black Bullhead	1			X-04-128_140604_E1
X-04-128	Brook Stickleback	1			X-04-128_140604_E1
X-04-128	Central Mudminnow	2			X-04-128_140604_E1
X-04-128	White Sucker	1	272	Released	X-04-128_140604_E1
X-04-129	Brook Stickleback	58			X-04-129_140604_E1
X-04-129	Central Mudminnow	4			X-04-129_140604_E1
X-04-129	Fathead Minnow	53			X-04-129_140604_E1
X-04-129	White Sucker	2	212, 249	Released	X-04-129_140604_E1
X-04-130	Fathead Minnow	1			X-04-130_140604_E1
X-04-132	Brook Stickleback	79		Plus 2 tadpoles (*Rana spp*)	X-04-132_140604_E1
X-04-132	Fathead Minnow	45			X-04-132_140604_E1
X-04-133	Fathead Minnow	9			X-04-133_150604_E1
X-04-137	Brook Stickleback	14			X-04-137_160604_E1
X-04-137	Common Shiner	4			X-04-137_160604_E1
X-04-137	Creek Chub	7			X-04-137_160604_E1
X-04-137	Fathead Minnow	38			X-04-137_160604_E1
X-04-137	No Catch				X-04-137_160604_L1
X-04-137	Western Blacknose Dace	7			X-04-137_160604_E1
X-04-137	Yellow Perch	1			X-04-137_160604_E1
X-04-138	Black Bullhead	3		Released 1 (222 mm)	X-04-138_160604_E1
X-04-138	Brassy Minnow	33			X-04-138_160604_E1
X-04-138	Brook Stickleback	3			X-04-138_160604_E1
X-04-138	Common Shiner	1			X-04-138_160604_E1
X-04-138	Creek Chub	2			X-04-138_160604_E1
X-04-138	Fathead Minnow	368		Ripe adults & juveniles	X-04-138_160604_E1
X-04-138	Western Blacknose Dace	6			X-04-138_160604_E1
X-04-139	No Catch				X-04-139_160604_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-141	Common Shiner	9			X-04-141_170604_E1
X-04-141	Creek Chub	13			X-04-141_170604_E1
X-04-141	Fathead Minnow	8			X-04-141_170604_E1
X-04-141	Western Blacknose Dace	4			X-04-141_170604_E1
X-04-141	White Sucker	10	141-208	4 kept (141 – 158 mm), 6 released (154–208 mm)	X-04-141_170604_E1
X-04-142	Brook Stickleback	18			X-04-142_170604_E1
X-04-142	Common Shiner	5			X-04-142_170604_E1
X-04-142	Creek Chub	14			X-04-142_170604_E1
X-04-142	Fathead Minnow	8			X-04-142_170604_E1
X-04-142	Iowa Darter	1			X-04-142_170604_E1
X-04-142	Western Blacknose Dace	19			X-04-142_170604_E1
X-04-142	White Sucker	1	134	Immature male	X-04-142_170604_E1
X-04-145	Brassy Minnow	8			X-04-145_170604_E1
X-04-145	Brook Stickleback	2			X-04-145_170604_E1
X-04-145	Central Mudminnow	4			X-04-145_170604_E1
X-04-145	Creek Chub	18			X-04-145_170604_E1
X-04-145	Fathead Minnow	11			X-04-145_170604_E1
X-04-145	Johnny Darter	4			X-04-145_170604_E1
X-04-145	Western Blacknose Dace	7			X-04-145_170604_E1
X-04-145	White Sucker	1	78		X-04-145_170604_E1
X-04-147	Brook Stickleback	3			X-04-147_180604_E1
X-04-147	Creek Chub	9			X-04-147_180604_E1
X-04-147	Fathead Minnow	39		Mature, ripe males present	X-04-147_180604_E1
X-04-147	Western Blacknose Dace	18		Ripe adults	X-04-147_180604_E1
X-04-147	White Sucker	1	53		X-04-147_180604_E1
X-04-149	Brook Stickleback	1		YOY	X-04-149_210604_E1
X-04-149	Central Mudminnow	10			X-04-149_210604_E1
X-04-149	Creek Chub	1			X-04-149_210604_E1
X-04-149	Finescale Dace	3			X-04-149_210604_E1
X-04-149	Johnny Darter	3			X-04-149_210604_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-149	No Catch				X-04-149_210604_L1
X-04-149	Northern Redbelly Dace	1			X-04-149_210604_E1
X-04-149	Pearl Dace	12		10 are YOY	X-04-149_210604_E1
X-04-149	Western Blacknose Dace	10			X-04-149_210604_E1
X-04-149	White Sucker	1	91		X-04-149_210604_E1
X-04-150	Central Mudminnow	4			X-04-150_210604_E1
X-04-150	Creek Chub	2			X-04-150_210604_E1
X-04-150	Fathead Minnow	4			X-04-150_210604_E1
X-04-150	Finescale Dace	1			X-04-150_210604_E1
X-04-150	Johnny Darter	13			X-04-150_210604_E1
X-04-150	Northern Redbelly Dace	1			X-04-150_210604_E1
X-04-150	Pearl Dace	5			X-04-150_210604_E1
X-04-150	Western Blacknose Dace	25			X-04-150_210604_E1
X-04-150	White Sucker	5	49-172	143 mm is a spawning male, 1 @ 172 released	X-04-150_210604_E1
X-04-151	Brook Stickleback	26			X-04-151_210604_E1
X-04-151	Central Mudminnow	7			X-04-151_210604_E1
X-04-151	Fathead Minnow	7			X-04-151_210604_E1
X-04-151	Johnny Darter	6			X-04-151_210604_E1
X-04-151	Northern Redbelly Dace	81			X-04-151_210604_E1
X-04-151	Pearl Dace	1			X-04-151_210604_E1
X-04-151	White Sucker	5	50-125		X-04-151_210604_E1
X-04-152	Brook Stickleback	1			X-04-152_220604_B1
X-04-153	Brook Stickleback	3			X-04-153_220604_E1
X-04-153	Central Mudminnow	5			X-04-153_220604_E1
X-04-153	Fathead Minnow	3			X-04-153_220604_E1
X-04-154	No Catch			Stocked with trout in past	X-04-154_220604_E1
X-04-155	Black Bullhead	1			X-04-155_230604_E1
X-04-155	Central Mudminnow	11			X-04-155_230604_E1
X-04-155	Fathead Minnow	5			X-04-155_230604_E1
X-04-155	Johnny Darter	2			X-04-155_230604_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-155	Logperch	1			X-04-155_230604_E1
X-04-155	Northern Pike	1	64	YOY	X-04-155_230604_E1
X-04-155	River Darter	1		Plus 2 *Orconectes virilis*	X-04-155_230604_E1
X-04-155	Spottail Shiner	9			X-04-155_230604_E1
X-04-155	White Sucker	2	84, 99		X-04-155_230604_E1
X-04-155	Yellow Perch	22	60-85	Released 20	X-04-155_230604_E1
X-04-156	Brook Stickleback	5		Released 20	X-04-156_230604_E1
X-04-156	Central Mudminnow	36		Released 20	X-04-156_230604_E1
X-04-157	Central Mudminnow	1			X-04-157_230604_E1
X-04-157	Northern Pike	3	73-76		X-04-157_230604_E1
X-04-159	Central Mudminnow	1			X-04-159_230604_E1
X-04-159	Northern Pike	3	69-92	Released	X-04-159_230604_E1
X-04-160	Central Mudminnow	10			X-04-160_240604_E1
X-04-160	Northern Pike	4	62-83	YOY Northern Pike released, 1 Tadpole shrimp bagged with sample - presence indicates that water dries up for much of the year	X-04-160_240604_E1
X-04-161	No Catch			Suckers use drain	X-04-161_240604_E1
X-04-162	Brook Stickleback	4			X-04-162_240604_E1
X-04-162	Central Mudminnow	4			X-04-162_240604_E1
X-04-162	Fathead Minnow	21			X-04-162_240604_E1
X-04-162	Finescale Dace	14			X-04-162_240604_E1
X-04-162	Iowa Darter	6			X-04-162_240604_E1
X-04-162	Longnose Dace	3			X-04-162_240604_E1
X-04-162	Northern Pike	1	84		X-04-162_240604_E1
X-04-162	Northern Redbelly Dace	3			X-04-162_240604_E1
X-04-162	White Sucker	1	58		X-04-162_240604_E1
X-04-162	Yellow Perch	10	58-66		X-04-162_240604_E1
X-04-163	Fathead Minnow	1			X-04-163_250604_E1
X-04-163	Northern Pike	6	64-84	5 donated to New Icelandic Heritage Museum	X-04-163_250604_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-164	Brook Stickleback	1			X-04-164_250604_E1
X-04-164	Central Mudminnow	1			X-04-164_250604_E1
X-04-164	Johnny Darter	1			X-04-164_250604_E1
X-04-164	Northern Pike	14	57-72	8 donated to New Icelandic Heritage Museum	X-04-164_250604_E1
X-04-164	Yellow Perch	1	71		X-04-164_250604_E1
X-04-165	Brook Stickleback	7			X-04-165_280604_D1
X-04-167	Common Carp	100's		Many observed	X-04-167_280604_E1
X-04-167	Northern Pike	1	44		X-04-167_280604_E1
X-04-168	Brook Stickleback	2			X-04-168_280604_E1
X-04-168	Central Mudminnow	1			X-04-168_280604_E1
X-04-169	Northern Pike	2	85-95	Plus one *Lepidurus* spp.	X-04-169_280604_E1
X-04-170	No Catch				X-04-170_290604_E1
X-04-171	Brook Stickleback	17			X-04-171_290604_E1
X-04-171	Central Mudminnow	80			X-04-171_290604_E1
X-04-171	Fathead Minnow	6		7 post-larval Cyprinids in sample may also be Fathead Minnow	X-04-171_290604_E1
X-04-171	Finescale Dace	1			X-04-171_290604_E1
X-04-171	Northern Redbelly Dace	1			X-04-171_290604_E1
X-04-172	Central Mudminnow	1			X-04-172_290604_E1
X-04-172	Northern Pike	2	81, 247	Adult released	X-04-172_290604_E1
X-04-175	Brook Stickleback	15			X-04-175_290604_E1
X-04-175	Central Mudminnow	1		Donated to New Icelandic Heritage Museum	X-04-175_290604_E1
X-04-175	Fathead Minnow	27			X-04-175_290604_E1
X-04-175	Northern Redbelly Dace	40			X-04-175_290604_E1
X-04-175	White Sucker	38	37-60	37 YOY	X-04-175_290604_E1
X-04-176	Brook Stickleback	7		Plus 3 *Physa* spp. snails and 1 beetle larvae	X-04-176_300604_E1
X-04-176	Fathead Minnow	2			X-04-176_300604_E1
X-04-176	White Sucker	32	18-25*		X-04-176_300604_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-177	Brook Stickleback	35			X-04-177_300604_E1
X-04-177	Central Mudminnow	44		Mostly YOY	X-04-177_300604_E1
X-04-177	Common Carp	4	600-650	Released	X-04-177_300604_E1
X-04-177	Fathead Minnow	32			X-04-177_300604_E1
X-04-177	Iowa Darter	2			X-04-177_300604_E1
X-04-177	Northern Redbelly Dace	1			X-04-177_300604_E1
X-04-177	Pearl Dace	1			X-04-177_300604_E1
X-04-177	White Sucker	12	18-26*	YOY	X-04-177_300604_E1
X-04-178	Common Carp	4	600-650	Released	X-04-178_010704_E1
X-04-178	Emerald Shiner	3			X-04-178_010704_E1
X-04-178	Fathead Minnow	4		2 males in spawning colors	X-04-178_010704_E1
X-04-178	Johnny Darter	1			X-04-178_010704_E1
X-04-178	Northern Pike	2	83-92		X-04-178_010704_E1
X-04-179	Northern Pike	1	91		X-04-179_010704_E1
X-04-179	Spottail Shiner	1			X-04-179_010704_E1
X-04-180	Brook Stickleback	3		Plus one dragon fly larvae	X-04-180_020704_D1
X-04-180	Central Mudminnow	1		Plus one dragon fly larvae	X-04-180_020704_D1
X-04-181	Blacknose Shiner	2			X-04-181_020704_E1
X-04-181	Brook Stickleback	1			X-04-181_020704_E1
X-04-181	Fathead Minnow	1			X-04-181_020704_E1
X-04-181	Johnny Darter	1			X-04-181_020704_E1
X-04-181	Northern Pike	3	53-72		X-04-181_020704_E1
X-04-181	Yellow Perch	1	68		X-04-181_020704_E1
X-04-182	Brook Stickleback	32			X-04-182_050704_E1
X-04-182	Fathead Minnow	4			X-04-182_050704_E1
X-04-184	Northern Pike	1	77	Tail damaged	X-04-184_050704_E1
X-04-184	Spottail Shiner	1			X-04-184_050704_E1
X-04-185	Fathead Minnow	14			X-04-185_050704_E1
X-04-185	Iowa Darter	10			X-04-185_050704_E1
X-04-185	Northern Pike	8	78-191	Released 6	X-04-185_050704_E1
X-04-185	Yellow Perch	9	63-91	Released 7	X-04-185_050704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-186	Brook Stickleback	17			X-04-186_050704_E1
X-04-186	Central Mudminnow	10			X-04-186_050704_E1
X-04-187	Common Carp	100's		Many observed	X-04-187_060704_E1
X-04-187	Fathead Minnow	1		Male in spawning color	X-04-187_060704_E1
X-04-187	Northern Pike	18	91-131	Released 16	X-04-187_060704_E1
X-04-188	Northern Pike	1	76		X-04-188_060704_D1
X-04-190	White Sucker	55	23-33*	All YOY; 5 Corixidae, 1 Physid snail, 1 dragon fly nymph, and a tadpole shrimp. Tadpole shrimp suggests site goes dry	X-04-190_060704_B1
X-04-192	Central Mudminnow	1			X-04-192_060704_E1
X-04-192	Fathead Minnow	1			X-04-192_060704_E1
X-04-192	Freshwater Drum	1	682	Released	X-04-192_060704_E1
X-04-192	Johnny Darter	1			X-04-192_060704_E1
X-04-192	Logperch	1			X-04-192_060704_E1
X-04-192	Northern Pike	3	50-117		X-04-192_060704_E1
X-04-194	Brook Stickleback	2			X-04-194_070704_E1
X-04-194	Central Mudminnow	1			X-04-194_070704_E1
X-04-194	Northern Pike	2	69, 71		X-04-194_070704_E1
X-04-194	Northern Pike	95		YOY released	X-04-194_070704_B1
X-04-195	Black Bullhead	1		Found dead onsite	X-04-195_070704_E1
X-04-195	Brook Stickleback	15			X-04-195_070704_E1
X-04-195	Fathead Minnow	6			X-04-195_070704_E1
X-04-196	No Catch				X-04-196_070704_E1
X-04-198	Blackside Darter	2			X-04-198_070704_E1
X-04-198	White Sucker	1	138		X-04-198_070704_E1
X-04-198	Yellow Perch	2	68-79		X-04-198_070704_E1
X-04-199	Brook Stickleback	9			X-04-199_080704_E1
X-04-199	Yellow Perch	6	92-122	Released	X-04-199_080704_E1
X-04-200	Common Carp	2	497, 669	Released	X-04-200_080704_E1
X-04-200	Northern Pike	2	90, 99		X-04-200_080704_E1
X-04-201	Brook Stickleback	3			X-04-201_080704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-202	No Catch				X-04-202_080704_E1
X-04-203	Brook Stickleback	1			X-04-203_130704_E1
X-04-203	Central Mudminnow	2			X-04-203_130704_E1
X-04-203	Finescale Dace	2			X-04-203_130704_E1
X-04-203	Northern Redbelly Dace	1			X-04-203_130704_E1
X-04-204	Brook Stickleback	10		Plus one *Rana* spp. tadpole	X-04-204_130704_E1
X-04-205	Brassy Minnow	3			X-04-205_130704_E1
X-04-205	Brook Stickleback	13			X-04-205_130704_E1
X-04-205	Central Mudminnow	9			X-04-205_130704_E1
X-04-205	Common Shiner	1			X-04-205_130704_E1
X-04-205	Creek Chub	6			X-04-205_130704_E1
X-04-205	Fathead Minnow	4		1 YOY	X-04-205_130704_E1
X-04-205	Finescale Dace	5			X-04-205_130704_E1
X-04-205	Johnny Darter	7			X-04-205_130704_E1
X-04-205	Northern Redbelly Dace	37			X-04-205_130704_E1
X-04-205	Pearl Dace	16			X-04-205_130704_E1
X-04-205	Western Blacknose Dace	3			X-04-205_130704_E1
X-04-205	White Sucker	1	19*	Definitely a Catostomid, fairly confident is White Sucker	X-04-205_130704_E1
X-04-206	Central Mudminnow	14			X-04-206_130704_E1
X-04-206	Iowa Darter	1			X-04-206_130704_E1
X-04-206	Northern Pike	1	109		X-04-206_130704_E1
X-04-206	White Sucker	1	79		X-04-206_130704_E1
X-04-207	Blackside Darter	1			X-04-207_130704_E1
X-04-207	Brook Stickleback	4			X-04-207_130704_E1
X-04-207	Central Mudminnow	12			X-04-207_130704_E1
X-04-207	Unidentified sucker	1	9	Larval stage	X-04-207_130704_E1
X-04-208	Brook Stickleback	14			X-04-208_140704_E1
X-04-208	Central Mudminnow	19			X-04-208_140704_E1
X-04-208	Common Shiner	3			X-04-208_140704_E1
X-04-208	Creek Chub	6			X-04-208_140704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-208	Fathead Minnow	1			X-04-208_140704_E1
X-04-208	Finescale Dace	1			X-04-208_140704_E1
X-04-208	Johnny Darter	7		One spawning male	X-04-208_140704_E1
X-04-208	Northern Redbelly Dace	16			X-04-208_140704_E1
X-04-208	Pearl Dace	2			X-04-208_140704_E1
X-04-208	Western Blacknose Dace	3			X-04-208_140704_E1
X-04-208	White Sucker	2	96, 130		X-04-208_140704_E1
X-04-209	Blackside Darter	2			X-04-209_140704_E1
X-04-209	Burbot	1	304	Released	X-04-209_140704_E1
X-04-209	Central Mudminnow	6			X-04-209_140704_E1
X-04-210	Blackside Darter	1			X-04-210_140704_E1
X-04-210	Brassy Minnow	6			X-04-210_140704_E1
X-04-210	Brook Stickleback	13			X-04-210_140704_E1
X-04-210	Central Mudminnow	10		4 YOY	X-04-210_140704_E1
X-04-210	Creek Chub	1			X-04-210_140704_E1
X-04-210	Fathead Minnow	2			X-04-210_140704_E1
X-04-210	Johnny Darter	9			X-04-210_140704_E1
X-04-210	Northern Redbelly Dace	69			X-04-210_140704_E1
X-04-210	Pearl Dace	3			X-04-210_140704_E1
X-04-210	White Sucker	1	19*	YOY	X-04-210_140704_E1
X-04-211	Northern Pike	2	85, 82	100's of YOY Northern Pike observed	X-04-211_140704_D1
X-04-212	No Catch				X-04-212_150704_E1
X-04-213	No Catch				X-04-213_150704_E1
X-04-215	No Catch				X-04-215_150704_E1
X-04-215	Northern Pike	5		5 - YOY observed unable to collect	X-04-215_150704_O1
X-04-216	No Catch				X-04-216_160704_E1
X-04-217	No Catch				X-04-217_160704_E1
X-04-221	Black Bullhead	3			X-04-221_160704_E1
X-04-221	Common Carp	1	163		X-04-221_160704_E1
X-04-221	Golden Shiner	1			X-04-221_160704_E1
X-04-221	Johnny Darter	2			X-04-221_160704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-221	Longnose Dace	39			X-04-221_160704_E1
X-04-221	Northern Pike	1	364	Released	X-04-221_160704_E1
X-04-221	River Darter	1		Plus 2 crayfish (probably *Orconectes virilis*)	X-04-221_160704_E1
X-04-221	Rock Bass	16	50-147	Released 5 Common Shiners, some mature females and small males with tubercles	X-04-221_160704_E1
X-04-221	Tadpole Madtom	3		Released 1	X-04-221_160704_E1
X-04-221	White Sucker	2	123-141	Immature, 1 released	X-04-221_160704_E1
X-04-221	Yellow Perch	1	91		X-04-221_160704_E1
X-04-222	Blackside Darter	9		1 YOY	X-04-222_190704_E1
X-04-222	Johnny Darter	7			X-04-222_190704_E1
X-04-222	Western Blacknose Dace	6			X-04-222_190704_E1
X-04-222	White Sucker	45	22*-134	Released 12, 134 mm is an immature male, 19 are YOY	X-04-222_190704_E1
X-04-222	Yellow Perch	1	67		X-04-222_190704_E1
X-04-223	Blackside Darter	3			X-04-223_200704_E1
X-04-223	Brook Stickleback	3			X-04-223_200704_E1
X-04-223	Johnny Darter	5			X-04-223_200704_E1
X-04-223	Western Blacknose Dace	93			X-04-223_200704_E1
X-04-223	White Sucker	2	139, 146	Spent female, 1 released	X-04-223_200704_E1
X-04-225	Blackside Darter	2			X-04-225_200704_E1
X-04-225	Johnny Darter	9			X-04-225_200704_E1
X-04-225	Longnose Dace	1			X-04-225_200704_E1
X-04-225	Northern Pike	2			X-04-225_200704_E1
X-04-225	White Sucker	1	132	Male, length is approximate as the body was bent	X-04-225_200704_E1
X-04-226	Blackside Darter	4			X-04-226_200704_E1
X-04-226	Johnny Darter	1			X-04-226_200704_E1
X-04-226	Longnose Dace	1			X-04-226_200704_E1
X-04-226	White Sucker	35	18*-148	148 mm is an immature male, 34 are YOY	X-04-226_200704_E1
X-04-228	No Catch				X-04-228_210704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-230	Brook Stickleback	1			X-04-230_210704_D1
X-04-230	Fathead Minnow	22			X-04-230_210704_D1
X-04-232	Brook Stickleback	23			X-04-232_220704_E1
X-04-235	Fathead Minnow	1			X-04-235_220704_D1
X-04-235	Brook Stickleback	1			X-04-235_220704_D1
X-04-238	Brook Stickleback	21			X-04-238_220704_E1
X-04-238	Fathead Minnow	1			X-04-238_220704_E1
X-04-239	Blackside Darter	17			X-04-239_220704_E1
X-04-239	Burbot	3	273-304	Released	X-04-239_220704_E1
X-04-239	Johnny Darter	1			X-04-239_220704_E1
X-04-239	Longnose Dace	16			X-04-239_220704_E1
X-04-239	Northern Pike	2	87, 100	YOY	X-04-239_220704_E1
X-04-239	Rock Bass	1	134		X-04-239_220704_E1
X-04-239	White Sucker	7	31*-386	Largest released, 5 YOY in sample	X-04-239_220704_E1
X-04-245	Burbot	1	304*	Released	X-04-245_260704_E1
X-04-248	Brook Stickleback	17			X-04-248_280704_E1
X-04-248	Fathead Minnow	2			X-04-248_280704_E1
X-04-249	Brook Stickleback	21			X-04-249_280704_E1
X-04-249	Central Mudminnow	4			X-04-249_280704_E1
X-04-249	Common Shiner	3			X-04-249_280704_E1
X-04-249	Fathead Minnow	15			X-04-249_280704_E1
X-04-249	Johnny Darter	1			X-04-249_280704_E1
X-04-251	Brook Stickleback	1			X-04-251_280704_E1
X-04-251	Fathead Minnow	1			X-04-251_280704_E1
X-04-251	Sand Shiner	1			X-04-251_280704_E1
X-04-251	White Sucker	2	39, 45		X-04-251_280704_E1
X-04-253	Bigmouth Buffalo	3		YOY	X-04-253_300704_E1
X-04-253	Black Bullhead	1			X-04-253_300704_E1
X-04-253	Black Crappie	1		YOY	X-04-253_300704_E1
X-04-253	Blackside Darter	15			X-04-253_300704_E1
X-04-253	Burbot	2	92, 100*		X-04-253_300704_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-253	Common Carp	1			X-04-253_300704_E1
X-04-253	Fathead Minnow	5		1 YOY	X-04-253_300704_E1
X-04-253	Johnny Darter	1			X-04-253_300704_E1
X-04-253	Northern Pike	1	116	YOY	X-04-253_300704_E1
X-04-253	River Darter	18			X-04-253_300704_E1
X-04-253	River Shiner	13			X-04-253_300704_E1
X-04-253	Rock Bass	6	57, 78		X-04-253_300704_E1
X-04-253	Sauger	3	203-295	Released	X-04-253_300704_E1
X-04-253	Shorthead Redhorse	3	83-360	Juveniles in sample, 1 released (360 mm), kept (83,126 mm)	X-04-253_300704_E1
X-04-253	Silver Redhorse	1	93	Juvenile	X-04-253_300704_E1
X-04-253	Troutperch	10			X-04-253_300704_E1
X-04-253	Walleye	2	58, 59	YOY	X-04-253_300704_E1
X-04-253	White Sucker	6	12*-88	4 YOY	X-04-253_300704_E1
X-04-253	Yellow Perch	1		YOY	X-04-253_300704_E1
X-04-255	Blackside Darter	3			X-04-255_300704_E1
X-04-255	Fathead Minnow	8			X-04-255_300704_E1
X-04-255	Longnose Dace	1			X-04-255_300704_E1
X-04-255	Northern Pike	1	114		X-04-255_300704_E1
X-04-255	Troutperch	1			X-04-255_300704_E1
X-04-256	Black Bullhead	1			X-04-256_030804_E1
X-04-256	Blackside Darter	3			X-04-256_030804_E1
X-04-256	Channel Catfish	1	333	Released	X-04-256_030804_E1
X-04-256	Fathead Minnow	3			X-04-256_030804_E1
X-04-256	Goldeye	2	64-69		X-04-256_030804_E1
X-04-256	Northern Pike	2	121-136		X-04-256_030804_E1
X-04-256	Troutperch	1			X-04-256_030804_E1
X-04-256	Walleye	1	77		X-04-256_030804_E1
X-04-256	White Sucker	1	110		X-04-256_030804_E1
X-04-257	Logperch	7			X-04-257_030804_E1
X-04-257	Blackside Darter	21			X-04-257_030804_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-257	Longnose Dace	9			X-04-257_030804_E1
X-04-257	Rock Bass	1	84		X-04-257_030804_E1
X-04-258	Brook Stickleback	8			X-04-258_040804_E1
X-04-258	Common Shiner	42		All YOY	X-04-258_040804_E1
X-04-258	Creek Chub	6		4 YOY or Age 1	X-04-258_040804_E1
X-04-258	Fathead Minnow	6		1 YOY	X-04-258_040804_E1
X-04-258	Johnny Darter	4			X-04-258_040804_E1
X-04-258	Longnose Dace	1			X-04-258_040804_E1
X-04-258	Troutperch	1	104		X-04-258_040804_E1
X-04-258	Western Blacknose Dace	10		8 YOY	X-04-258_040804_E1
X-04-258	White Sucker	10	41*-181	Released 5 (98–181 mm), 5 kept (41–91 mm)	X-04-258_040804_E1
X-04-259	Common Shiner	14			X-04-259_050804_E1
X-04-259	Creek Chub	13		12 juveniles	X-04-259_050804_E1
X-04-259	Fathead Minnow	5			X-04-259_050804_E1
X-04-259	Johnny Darter	3			X-04-259_050804_E1
X-04-259	Logperch	7			X-04-259_050804_E1
X-04-259	Longnose Dace	19		2 YOY	X-04-259_050804_E1
X-04-259	Northern Pike	1		Caught by angler on upstream side of raised ford crossing	X-04-259_050804_E1
X-04-259	River Darter	10		8 YOY or 1+	X-04-259_050804_E1
X-04-259	Sand Shiner	96		30% YOY and 1+	X-04-259_050804_E1
X-04-259	Shorthead Redhorse	4	86-119		X-04-259_050804_E1
X-04-259	Troutperch	3			X-04-259_050804_E1
X-04-259	Western Blacknose Dace	1			X-04-259_050804_E1
X-04-259	White Sucker	1	126		X-04-259_050804_E1
X-04-259	Yellow Perch	34		27 are YOY or 1+	X-04-259_050804_E1
X-04-260	Bigmouth Shiner	23			X-04-260_050804_E1
X-04-260	Blackside Darter	12			X-04-260_050804_E1
X-04-260	Common Carp	1		YOY	X-04-260_050804_E1
X-04-260	Common Shiner	23			X-04-260_050804_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-04-260	Creek Chub	5			X-04-260_050804_E1
X-04-260	Johnny Darter	10			X-04-260_050804_E1
X-04-260	Longnose Dace	8			X-04-260_050804_E1
X-04-260	Sand Shiner	369			X-04-260_050804_E1
X-04-260	Shorthead Redhorse	3	68, 119,161		X-04-260_050804_E1
X-04-260	Western Blacknose Dace	8			X-04-260_050804_E1
X-04-262	Brook Stickleback	1			X-04-262_060804_E1
X-04-262	Common Shiner	4		All YOY	X-04-262_060804_E1
X-04-262	Fathead Minnow	1			X-04-262_060804_E1
X-04-262	Johnny Darter	5		4 YOY	X-04-262_060804_E1
X-04-262	Logperch	7	101-108*	Released 4	X-04-262_060804_E1
X-04-262	Longnose Dace	3			X-04-262_060804_E1
X-04-262	Western Blacknose Dace	2		YOY	X-04-262_060804_E1
X-04-262	Yellow Perch	2		78–87 mm	X-04-262_060804_E1
D-05-004	White Sucker	several		Observed congregated on hard substrate downstream of culvert	D-05-004_140405_O1
D-05-007	White Sucker	several		Observed congregated on cobble and boulders under and around bridge.	D-05-007_140405_O1
D-05-008	White Sucker	several		Observed congregated on cobble and boulders under and around bridge.	D-05-008_140405_O1
D-05-009	White Sucker	several		Observed congregated on cobble and boulders under and around bridge.	D-05-009_140405_O1
D-05-009	Northern Pike	2		Immature, observed in submerged grasses	D-05-009_140405_O1
D-05-010	No Catch				D-05-010_010505_L1
D-05-011	Fathead Minnow	1			D-05-011_010605_Z1
D-05-011	Northern Pike	several		Several adults observed but unable to collect	D-05-011_010605_O1
D-05-011	Troutperch	1			D-05-011_010605_Z1
D-05-011	Walleye	2	246, 586	Released	D-05-011_010605_Z1
D-05-011	White Sucker	5	330-421	Released, 1 ripe female	D-05-011_010605_Z1
D-05-012	Black Bullhead	1	189		D-05-012_090605_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-05-012	Northern Pike	4	204-242	Released	D-05-012_090605_B1
D-05-013	Bigmouth Shiner	4	65		D-05-013_200705_E1
D-05-013	Blackside Darter	1		Juvenile	D-05-013_200705_E1
D-05-013	Brassy Minnow	3	60-66		D-05-013_200705_E1
D-05-013	Common Shiner	1			D-05-013_200705_E1
D-05-013	Creek Chub	3	98-115		D-05-013_200705_E1
D-05-013	Fathead Minnow	133			D-05-013_200705_E1
D-05-013	Iowa Darter	1		Juvenile	D-05-013_200705_E1
D-05-013	Johnny Darter	14	30-50*	Juveniles	D-05-013_200705_E1
D-05-013	Western Blacknose Dace	9			D-05-013_200705_E1
D-05-013	White Sucker	23	38-51	YOY	D-05-013_200705_E1
D-05-014	Black Bullhead	1	38*	Plus 4 dragonfly larvae	D-05-014_200705_B1
D-05-014	Brook Stickleback	2	23-24*		D-05-014_200705_B1
D-05-014	Fathead Minnow	333	13-18	YOY	D-05-014_200705_B1
D-05-014	Johnny Darter	1	48*		D-05-014_200705_B1
D-05-014	Northern Pike	2	151-152		D-05-014_200705_B1
D-05-014	Yellow Perch	3	47-50		D-05-014_200705_B1
D-05-015	Common Shiner	2			D-05-015_200705_E1
D-05-015	Creek Chub	3			D-05-015_200705_B1
D-05-015	Fathead Minnow	2			D-05-015_200705_B1
D-05-015	Johnny Darter	2			D-05-015_200705_E1
D-05-015	Johnny Darter	7			D-05-015_200705_B1
D-05-015	Northern Pike	2	131, 187		D-05-015_200705_B1
D-05-015	White Sucker	34	31*-441	29 YOY & 2 immature. Released 2 White Sucker (441, 404 mm)	D-05-015_200705_B1
D-05-017	White Sucker	10	51	Immature	D-05-017_210705_D1
D-05-017	Fathead Minnow	10			D-05-017_210705_D1
D-05-017	Common Shiner	10			D-05-017_210705_D1
D-05-018	Northern Pike	5	147, 160	Released 3 Northern Pike (160, 158, 153 mm)	D-05-018_030805_E1
D-05-019	Brook Stickleback	10		Released	D-05-019_030805_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
D-05-019	Northern Pike	1	201	Released	D-05-019_030805_E1
D-05-020	Brook Stickleback	11	25-60*		D-05-020_040805_E1
D-05-020	Central Mudminnow	1	62*		D-05-020_040805_E1
D-05-020	Fathead Minnow	10	33-57		D-05-020_040805_E1
D-05-021	Brook Stickleback	12	26-41*		D-05-021_040805_D1
D-05-021	Fathead Minnow	4	30-61		D-05-021_040805_D1
D-05-023	Brassy Minnow	3	68		D-05-023_160805_E1
D-05-023	Brook Stickleback	11	27-57*	Plus 20 unidentified Amphipods	D-05-023_160805_E1
D-05-023	Common Carp	5		2 YOY, 2 immature	D-05-023_160805_E1
D-05-023	Common Shiner	5	82-111		D-05-023_160805_E1
D-05-023	Creek Chub	6	73-101	Released 5 additional Creek Chub	D-05-023_160805_E1
D-05-023	Fathead Minnow	702	15-63		D-05-023_160805_E1
D-05-023	Iowa Darter	18	41-55*		D-05-023_160805_E1
D-05-023	Northern Pike	1	210		D-05-023_160805_E1
D-05-023	Western Blacknose Dace	8	64-71		D-05-023_160805_E1
D-05-023	White Sucker	13	63-430	1 YOY & 7 immature, released 3 adults (430, 406, 404 mm)	D-05-023_160805_E1
D-05-023	Yellow Perch	1	100		D-05-023_160805_E1
D-05-025	Black Bullhead	7	30-48*		D-05-025_170805_E1
D-05-025	Brook Stickleback	3	32-42*	Released an additional 3 Brook Stickleback	D-05-025_170805_E1
D-05-025	Common Carp	68	56-108	Released an additional 30 Common Carp	D-05-025_170805_E1
D-05-025	Creek Chub	1	87	Released 2 additional Creek Chubs	D-05-025_170805_E1
D-05-025	Fathead Minnow	10	25-62	Released an additional 30 Fathead Minnows	D-05-025_170805_E1
D-05-025	Walleye	3	121-127		D-05-025_170805_E1
D-05-025	White Sucker	7	58-76		D-05-025_170805_E1
D-05-026	Brook Stickleback	145	28-67*		D-05-026_300805_E1
D-05-026	Fathead Minnow	44	25-72		D-05-026_300805_E1
D-05-026	Northern Redbelly Dace	1	37		D-05-026_300805_E1
D-05-027	Brook Stickleback	105	25-65*		D-05-027_300805_E1

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D-05-027	Fathead Minnow	15	25-70		D-05-027_300805_E1
D-05-027	White Sucker	5	65-90		D-05-027_300805_E1
W-05-001	No Catch				W-05-001_020505_E1
W-05-001	No Catch				W-05-001_020505_K1
W-05-001	White Sucker	>20		Dead on riffle rocks	W-05-001_020505_O1
W-05-002	Fathead Minnow	1	25		W-05-002_020505_E1
W-05-009	Brook Stickleback	1	38*		W-05-009_020505_E1
W-05-009	Fathead Minnow	33	19-64		W-05-009_020505_E1
W-05-012	Brook Stickleback	11	24-48*		W-05-012_030505_E1
W-05-012	Central Mudminnow	1	48*		W-05-012_030505_E1
W-05-012	Fathead Minnow	1	56		W-05-012_030505_E1
W-05-012	Pearl Dace	3	97-113		W-05-012_030505_E1
W-05-012	White Sucker	5	100-240*	Released, already spawned	W-05-012_030505_E1
W-05-013	Brook Stickleback	18	42-64*		W-05-013_030505_E1
W-05-013	Fathead Minnow	18	23-47		W-05-013_030505_E1
W-05-013	Pearl Dace	2	65, 69		W-05-013_030505_E1
W-05-014	Brook Stickleback	2	37-43*		W-05-014_030505_E1
W-05-014	Fathead Minnow	6	31-40		W-05-014_030505_E1
W-05-014	White Sucker	1	345*	Released	W-05-014_030505_E1
W-05-016	White Sucker	1	175*	Released	W-05-016_030505_E1
W-05-016	White Sucker	>30		Observed congregated in deep pool	W-05-016_030505_O1
W-05-017	White Sucker	3	192.5-270*	Released, saw many others	W-05-017_040505_E1
W-05-019	Fathead Minnow	2	69, 74		W-05-019_040505_E1
W-05-020	Brook Stickleback	9	29-60*		W-05-020_040505_E1
W-05-020	Fathead Minnow	2	27-34		W-05-020_040505_E1
W-05-023	No Catch				W-05-023_050505_E1
W-05-024	Black Bullhead	1	151*		W-05-024_050505_E1
W-05-024	Brook Stickleback	3	44-49*		W-05-024_050505_E1
W-05-024	Central Mudminnow	2	84-89*		W-05-024_050505_E1
W-05-024	Northern Pike	1		Observed	W-05-024_050505_O1
W-05-027	No Catch				W-05-027_050505_E1

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W-05-028	Central Mudminnow	2	67, 69*		W-05-028_050505_E1
W-05-030	No Catch				W-05-030_050505_E1
W-05-034	Black Bullhead	1		Observed	W-05-034_060505_O1
W-05-034	Brook Stickleback	2	46, 58*		W-05-034_060505_E1
W-05-036	No Catch				W-05-036_090505_E1
W-05-037	No Catch				W-05-037_090505_E1
W-05-038	No Catch				W-05-038_090505_E1
W-05-041	Brook Stickleback	1	32*		W-05-041_100505_E1
W-05-041	Fathead Minnow	5	44-72		W-05-041_100505_E1
W-05-043	No Catch				W-05-043_100505_E1
W-05-045	Brook Stickleback	2	50, 63*		W-05-045_100505_E1
W-05-045	Fathead Minnow	1	65		W-05-045_100505_E1
W-05-047	Brook Stickleback	2	36, 40*		W-05-047_110505_E1
W-05-047	Fathead Minnow	5	27-55		W-05-047_110505_E1
W-05-048	Fathead Minnow	3	33-56		W-05-048_110505_E1
W-05-049	No Catch				W-05-049_110505_E1
W-05-050	Central Mudminnow	1	71*		W-05-050_110505_E1
W-05-050	Fathead Minnow	1	61		W-05-050_110505_E1
W-05-051	No Catch				W-05-051_120505_E1
W-05-052	No Catch				W-05-052_120505_E1
W-05-053	No Catch				W-05-053_120505_E1
W-05-054	Fathead Minnow	5	50-65		W-05-054_120505_E1
W-05-055	Brook Stickleback	27	28-52*		W-05-055_160505_E1
W-05-055	Creek Chub	2	107-124		W-05-055_160505_E1
W-05-055	Fathead Minnow	4	34-64		W-05-055_160505_E1
W-05-055	Iowa Darter	1	41*		W-05-055_160505_E1
W-05-055	No Catch				W-05-055_160505_L1
W-05-056	Brook Stickleback	25	37-63*		W-05-056_160505_E1
W-05-056	White Sucker	4	51-75		W-05-056_160505_E1
W-05-057	Brook Stickleback	57	35-59*		W-05-057_170505_E1
W-05-057	Fathead Minnow	15	29-51		W-05-057_170505_E1

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W-05-058	Brook Stickleback	22	30-48*		W-05-058_170505_E1
W-05-058	Creek Chub	3	39-57		W-05-058_170505_E1
W-05-058	Fathead Minnow	3	28-39		W-05-058_170505_E1
W-05-058	No Catch				W-05-058_170505_K1
W-05-058	White Sucker	4	152.5-175*	Released, 3 male, 1 female	W-05-058_170505_E1
W-05-059	Fathead Minnow	3	48-55		W-05-059_170505_E1
W-05-060	No Catch				W-05-060_170505_E1
W-05-062	Brook Stickleback	28	37-69*		W-05-062_180505_B1
W-05-062	Fathead Minnow	21	35-60		W-05-062_180505_B1
W-05-063	Brook Stickleback	3		Released	W-05-063_180505_E1
W-05-065	Brook Stickleback	62	24-64*	In fish collection labeled W-05-068	W-05-065_180505_E1
W-05-065	Fathead Minnow	23	29-75	10 *Gammarus lacustris* included in fish collection	W-05-065_180505_E1
W-05-066	Brook Stickleback	24	23-61*		W-05-066_180505_E1
W-05-066	Fathead Minnow	10	32-47		W-05-066_180505_E1
W-05-069	No Catch				W-05-069_190505_E1
W-05-071	Brook Stickleback	8	36-64*		W-05-071_200505_E1
W-05-071	Central Mudminnow	5	40-62*		W-05-071_200505_E1
W-05-071	Fathead Minnow	10	27-43		W-05-071_200505_E1
W-05-072	Brook Stickleback	1	44*		W-05-072_200505_E1
W-05-072	Central Mudminnow	1	50*		W-05-072_200505_E1
W-05-072	Fathead Minnow	1	39		W-05-072_200505_E1
W-05-073	No Catch				W-05-073_240505_E1
W-05-076	Brook Stickleback	7	35-60*		W-05-076_240505_E1
W-05-076	Central Mudminnow	23	30-96*		W-05-076_240505_E1
W-05-076	White Sucker	1	124		W-05-076_240505_E1
W-05-077	Fathead Minnow	49	33-69		W-05-077_240505_E1
W-05-077	Brook Stickleback	19	29-49*		W-05-077_240505_E1
W-05-077	Central Mudminnow	2	34-59*		W-05-077_240505_E1
W-05-077	Finescale Dace	90	29-44		W-05-077_240505_E1
W-05-077	No Catch				W-05-077_240505_D1

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W-05-077	Northern Redbelly Dace	4	34-35		W-05-077_240505_E1
W-05-078	Brook Stickleback	3	49-57*		W-05-078_250505_B1
W-05-078	Central Mudminnow	1	58*		W-05-078_250505_B1
W-05-078	Fathead Minnow	267	26-74		W-05-078_250505_B1
W-05-078	White Sucker	1	66	Specimens badly decomposed	W-05-078_250505_B1
W-05-079	Fathead Minnow	11	44-72		W-05-079_250505_E1
W-05-081	Brook Stickleback	1	69*		W-05-081_250505_E1
W-05-081	Fathead Minnow	6	34-58		W-05-081_250505_E1
W-05-082	No Catch				W-05-082_250505_E1
W-05-083	Brook Stickleback	74	28-54*		W-05-083_260505_E1
W-05-083	Creek Chub	2	43-53		W-05-083_260505_E1
W-05-083	Fathead Minnow	39	20-70		W-05-083_260505_E1
W-05-085	Brook Stickleback	6			W-05-085_260505_E1
W-05-086	Brook Stickleback	1	71*		W-05-086_260505_E1
W-05-086	Fathead Minnow	4	35-48		W-05-086_260505_E1
W-05-087	No Catch				W-05-087_260505_E1
W-05-093	No Catch				W-05-093_290505_E1
W-05-094	No Catch				W-05-094_310505_E1
W-05-096	Brook Stickleback	3	43-59*		W-05-096_310505_E1
W-05-096	Fathead Minnow	1	77	Ripe male	W-05-096_310505_E1
W-05-099	Brook Stickleback	3	42-67*		W-05-099_310505_E1
W-05-101	No Catch				W-05-101_010605_E1
W-05-102	Brook Stickleback	23	38-53*		W-05-102_010605_E1
W-05-102	Creek Chub	1	123		W-05-102_010605_E1
W-05-102	Fathead Minnow	1	67		W-05-102_010605_E1
W-05-102	Pearl Dace	4	65-89		W-05-102_010605_E1
W-05-103	Brassy Minnow	2	74, 85		W-05-103_010605_E1
W-05-103	Brook Stickleback	57	27-54*		W-05-103_010605_E1
W-05-103	Fathead Minnow	21	39-68		W-05-103_010605_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-05-103	Finescale Dace	25	34-77	NOTE: some of these looked atypical. Mainly the scales seemed too large for any *Phoxinus*. However, lateral line was incomplete; mouth & pigmentation were ok.	W-05-103_010605_E1
W-05-103	Pearl Dace	135	37-109		W-05-103_010605_E1
W-05-104	Brook Stickleback	14	25-41*		W-05-104_010605_E1
W-05-104	Common Shiner	1	65		W-05-104_010605_E1
W-05-104	Fathead Minnow	1	42		W-05-104_010605_E1
W-05-104	Finescale Dace	51	33-63		W-05-104_010605_E1
W-05-104	Western Blacknose Dace	3	42-83		W-05-104_010605_E1
W-05-105	Brook Stickleback	8	30-57*		W-05-105_010605_E1
W-05-105	Fathead Minnow	2	29-37		W-05-105_010605_E1
W-05-106	No Catch				W-05-106_020605_E1
W-05-110	Brook Stickleback	9	24-45*		W-05-110_040605_E1
W-05-110	Fathead Minnow	6	27-38		W-05-110_040605_E1
W-05-112	Black Bullhead	1	190*	Released	W-05-112_040605_E1
W-05-112	Brook Stickleback	1	51*		W-05-112_040605_E1
W-05-112	Fathead Minnow	249	21-71		W-05-112_040605_E1
W-05-112	Northern Pike	1	400*	Released	W-05-112_040605_E1
W-05-112	White Sucker	6	67-195*	Released, 1 male, 1 female	W-05-112_040605_E1
W-05-113	Brook Stickleback	40	33-64*		W-05-113_060605_E1
W-05-113	Central Mudminnow	1	64*		W-05-113_060605_E1
W-05-113	Iowa Darter	6	33-49*		W-05-113_060605_E1
W-05-113	Johnny Darter	4	32-42*		W-05-113_060605_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-05-114	White Sucker	82	10-15*	Post-larvae, estimated length Note: specimens in poor condition, limp and fragile; overall slender, elongate body form at a TL of about 10-15 mm is consistent with Catostomidae; lower portion of pharyngeal arch found on a detached, smashed head- teeth consistent with Catostomidae; dorsal ray count (2 specimens) 11 in range of *C. commersoni*; counted 42 & 44 centra on 2 specimens - a bit low for *C. commersoni*, but centra may have been missed; terminal, oblique mouth with protrusible premaxillae and short lower jaw is consistent with larval Catostomids. ID- Catostomidae with confidence, *C. commersoni* on basis of vertebral and dorsal ray counts.	W-05-114_060605_E1
W-05-115	Brassy Minnow	1	51		W-05-115_070605_E1
W-05-115	Brook Stickleback	7	34-48*		W-05-115_070605_E1
W-05-115	Creek Chub	18	30-54		W-05-115_070605_E1
W-05-115	Fathead Minnow	3	39-53		W-05-115_070605_E1
W-05-115	Western Blacknose Dace	2	40, 74		W-05-115_070605_E1
W-05-116	Fathead Minnow	2	62, 69		W-05-116_070605_E1
W-05-117	Brassy Minnow	3	79-93		W-05-117_070605_E1
W-05-117	Creek Chub	5	59-126	Released 28 others	W-05-117_070605_E1
W-05-117	Fathead Minnow	3	64-78	Released 11	W-05-117_070605_E1
W-05-117	Finescale Dace	3		Released	W-05-117_070605_E1
W-05-117	Northern Redbelly Dace	13		Released (red spawning colour)	W-05-117_070605_E1
W-05-117	Western Blacknose Dace	21	66-80	Released 11	W-05-117_070605_E1
W-05-118	Brassy Minnow	1	48		W-05-118_080605_E1
W-05-118	Brook Stickleback	6	36-49*		W-05-118_080605_E1
W-05-118	Common Shiner	10	25-79		W-05-118_080605_E1

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W-05-118	Creek Chub	22	33-72		W-05-118_080605_E1
W-05-118	Fathead Minnow	3	43-44		W-05-118_080605_E1
W-05-118	Johnny Darter	2	37, 39*		W-05-118_080605_E1
W-05-118	Longnose Dace	1	59		W-05-118_080605_E1
W-05-118	Western Blacknose Dace	61	25-72		W-05-118_080605_E1
W-05-118	White Sucker	2	46, 52		W-05-118_080605_E1
W-05-119	Brook Stickleback	216	25-50*		W-05-119_080605_E1
W-05-119	Common Shiner	1	34		W-05-119_080605_E1
W-05-119	Creek Chub	1	52		W-05-119_080605_E1
W-05-119	Western Blacknose Dace	3	34-89		W-05-119_080605_E1
W-05-120	No Catch				W-05-120_090605_E1
W-05-121	No Catch				W-05-121_090605_E1
W-05-122	Brook Stickleback	5	36-52*		W-05-122_090605_E1
W-05-122	Fathead Minnow	24	39-63		W-05-122_090605_E1
W-05-126	No Catch				W-05-126_140605_E1
W-05-128	No Catch				W-05-128_140605_E1
W-05-129	Common Carp	1	700	Released	W-05-129_150605_E1
W-05-130	No Catch				W-05-130_150605_E1
W-05-130	Northern Pike	1		Observed	W-05-130_150605_O1
W-05-131	Brook Stickleback	23	18-53*		W-05-131_150605_E1
W-05-131	Central Mudminnow	2	81-100*		W-05-131_150605_E1
W-05-131	Fathead Minnow	4	30-66		W-05-131_150605_E1
W-05-131	Finescale Dace	47	32-50		W-05-131_150605_E1
W-05-131	Northern Redbelly Dace	334	30-45	NOTE: There appears to be a lot of morphological integration between *P. eos* & *P. neogaeus* in this sample. Assignment to species was more or less arbitrary in several specimens of each spec. Is there anything (like obstruction of fish passage) that might explain hybridization here?	W-05-131_150605_E1
W-05-131	White Sucker	3	79-111		W-05-131_150605_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-05-132	Brook Stickleback	4	23-53*		W-05-132_150605_E1
W-05-132	Central Mudminnow	1	57*		W-05-132_150605_E1
W-05-134	Brook Stickleback	2	22, 31*		W-05-134_150605_E1
W-05-134	Central Mudminnow	1	98*		W-05-134_150605_E1
W-05-135	Yellow Perch	1		Observed	W-05-135_160605_O1
W-05-136	Brook Stickleback	204	23-68*		W-05-136_160605_E1
W-05-136	Central Mudminnow	14	38-93*		W-05-136_160605_E1
W-05-136	Finescale Dace	3	43-50		W-05-136_160605_E1
W-05-136	Northern Redbelly Dace	1	60		W-05-136_160605_E1
W-05-137	Brook Stickleback	63	36-68*		W-05-137_160605_E1
W-05-137	Central Mudminnow	23	38-97*		W-05-137_160605_E1
W-05-137	Fathead Minnow	2	51, 66		W-05-137_160605_E1
W-05-137	Finescale Dace	11	30-60		W-05-137_160605_E1
W-05-137	Northern Redbelly Dace	23	28-45		W-05-137_160605_E1
W-05-138	Brook Stickleback	355	22-58*	Dytiscid larvae, *Caddis* spp. cases	W-05-138_160605_E1
W-05-138	Central Mudminnow	153	41-103*		W-05-138_160605_E1
W-05-138	Finescale Dace	21	37-61		W-05-138_160605_E1
W-05-138	Northern Redbelly Dace	2	40, 49		W-05-138_160605_E1
W-05-139	Brook Stickleback	7	32-55*		W-05-139_170605_E1
W-05-139	Fathead Minnow	10	25-70		W-05-139_170605_E1
W-05-139	Finescale Dace	1	42		W-05-139_170605_E1
W-05-139	Iowa Darter	3	39-59*		W-05-139_170605_E1
W-05-139	Northern Redbelly Dace	42	24-56		W-05-139_170605_E1
W-05-139	Pearl Dace	2	54, 88		W-05-139_170605_E1
W-05-140	Brook Stickleback	54	17-60*		W-05-140_170605_E1
W-05-140	Central Mudminnow	66	36-86*		W-05-140_170605_E1
W-05-140	Fathead Minnow	17	23-42		W-05-140_170605_E1
W-05-140	Finescale Dace	7	30-76		W-05-140_170605_E1
W-05-140	Northern Redbelly Dace	394	25-61		W-05-140_170605_E1
W-05-140	Pearl Dace	1	46		W-05-140_170605_E1
W-05-141	No Catch				W-05-141_200605_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-05-145	Fathead Minnow	20	43-67		W-05-145_200605_E1
W-05-146	Brook Stickleback	18	20-61*		W-05-146_210605_E1
W-05-146	Fathead Minnow	144	35-63		W-05-146_210605_E1
W-05-148	Brook Stickleback	54	21-48*		W-05-148_210605_E1
W-05-148	Fathead Minnow	9	46-77		W-05-148_210605_E1
W-05-149	Brook Stickleback	83	30-62*		W-05-149_220605_E1
W-05-149	Burbot	43	38-67*		W-05-149_220605_E1
W-05-149	Fathead Minnow	34	32-74		W-05-149_220605_E1
W-05-149	Western Blacknose Dace	1	55		W-05-149_220605_E1
W-05-150	Brook Stickleback	20	28-57*		W-05-150_220605_E1
W-05-150	Burbot	3	40-48*		W-05-150_220605_E1
W-05-150	Fathead Minnow	6	31-47		W-05-150_220605_E1
W-05-150	White Sucker	1	155		W-05-150_220605_E1
W-05-151	Brook Stickleback	10	32-49*		W-05-151_220605_E1
W-05-151	Burbot	3	50-57*		W-05-151_220605_E1
W-05-151	Creek Chub	3	41-75		W-05-151_220605_E1
W-05-151	Fathead Minnow	2	41, 44		W-05-151_220605_E1
W-05-151	Western Blacknose Dace	7	34-44		W-05-151_220605_E1
W-05-151	White Sucker	2	45, 74		W-05-151_220605_E1
W-05-152	Brassy Minnow	1	38		W-05-152_220605_E1
W-05-152	Brook Stickleback	52	22-37*		W-05-152_220605_E1
W-05-152	Burbot	12	37-57*		W-05-152_220605_E1
W-05-152	Common Shiner	1	35		W-05-152_220605_E1
W-05-152	Creek Chub	10	41-61		W-05-152_220605_E1
W-05-152	Fathead Minnow	3	35-38		W-05-152_220605_E1
W-05-154	No Catch				W-05-154_220605_E1
W-05-157	Brook Stickleback	8	43-53*		W-05-157_230605_E1
W-05-157	Fathead Minnow	22	29-42		W-05-157_230605_E1
W-05-159	No Catch				W-05-159_230605_E1
W-05-160	No Catch				W-05-160_230605_E1
W-05-161	Brook Stickleback	337	20-56*		W-05-161_230605_E1

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W-05-161	Fathead Minnow	5	30-56		W-05-161_230605_E1
W-05-162	Brook Stickleback	1	19*		W-05-162_230605_E1
W-05-162	White Sucker	3	88-114		W-05-162_230605_E1
W-05-163	Brook Stickleback	110	16-34*		W-05-163_240605_E1
W-05-164	Blackside Darter	2	58, 70*		W-05-164_270605_E1
W-05-164	Brook Stickleback	4	21-40*		W-05-164_270605_E1
W-05-164	Central Mudminnow	1	122*		W-05-164_270605_E1
W-05-164	Iowa Darter	1	43*		W-05-164_270605_E1
W-05-164	Northern Redbelly Dace	12	29-50		W-05-164_270605_E1
W-05-164	Pearl Dace	4	16-98		W-05-164_270605_E1
W-05-165	Brook Stickleback	33	21-90*		W-05-165_270605_E1
W-05-165	Central Mudminnow	26	35-86*		W-05-165_270605_E1
W-05-165	Finescale Dace	1	42		W-05-165_270605_E1
W-05-165	Northern Redbelly Dace	4	34-52		W-05-165_270605_E1
W-05-165	Pearl Dace	7	51-106		W-05-165_270605_E1
W-05-166	Brook Stickleback	6	35-44*		W-05-166_270605_E1
W-05-166	Central Mudminnow	1	40*		W-05-166_270605_E1
W-05-166	Fathead Minnow	2	23, 61		W-05-166_270605_E1
W-05-166	Northern Redbelly Dace	6	38-59		W-05-166_270605_E1
W-05-166	Pearl Dace	2	65, 67		W-05-166_270605_E1
W-05-167	Central Mudminnow	8	42-83		W-05-167_280605_E1
W-05-167	Northern Redbelly Dace	4	24-38	Look like *P. eos*, but possible hybrid with *P. neogaeus*	W-05-167_280605_E1
W-05-168	No Catch				W-05-168_110705_E1
W-05-169	Brook Stickleback	111	21-67*		W-05-169_120705_E1
W-05-169	Creek Chub	5	94-139		W-05-169_120705_E1
W-05-169	Fathead Minnow	101	51-73		W-05-169_120705_E1
W-05-169	Iowa Darter	1	47*		W-05-169_120705_E1
W-05-169	Rainbow Trout	1	240	Released	W-05-169_120705_E1
W-05-169	White Sucker	4	103-201		W-05-169_120705_E1
W-05-170	Brook Stickleback	4	37-48*		W-05-170_120705_D1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-05-171	Brassy Minnow	1	61		W-05-171_120705_E1
W-05-171	Burbot	4	52-54*		W-05-171_120705_E1
W-05-171	Common Shiner	10	35-69		W-05-171_120705_E1
W-05-171	Creek Chub	14	77-135		W-05-171_120705_E1
W-05-171	Fathead Minnow	21	47-75		W-05-171_120705_E1
W-05-171	Johnny Darter	6	35-60*		W-05-171_120705_E1
W-05-171	White Sucker	3	66-80		W-05-171_120705_E1
W-05-173	Brook Stickleback	3	30-35*		W-05-173_120705_E1
W-05-173	Common Shiner	7	37-80		W-05-173_120705_E1
W-05-173	Creek Chub	3	54-183		W-05-173_120705_E1
W-05-173	Fathead Minnow	1	54		W-05-173_120705_E1
W-05-173	Pearl Dace	2	64, 68		W-05-173_120705_E1
W-05-173	Western Blacknose Dace	2	42		W-05-173_120705_E1
W-05-173	White Sucker	1	57		W-05-173_120705_E1
W-05-176	No Catch				W-05-176_180705_E1
W-05-176	Northern Pike	1			W-05-176_180705_O1
W-05-177	Central Mudminnow	2	70, 86*		W-05-177_190705_E1
W-05-177	Northern Pike	2	154, 158	Observed several others	W-05-177_190705_E1
W-05-178	Brook Stickleback	128	23-54*		W-05-178_190705_E1
W-05-178	Central Mudminnow	19	35-94*		W-05-178_190705_E1
W-05-178	White Sucker	5	52-139		W-05-178_190705_E1
W-05-180	Brook Stickleback	17	30-40*		W-05-180_190705_E1
W-05-180	Central Mudminnow	1	89*	Invertebrate sample	W-05-180_190705_E1
W-05-180	Western Blacknose Dace	1	30		W-05-180_190705_E1
W-05-180	White Sucker	16	37*-107		W-05-180_190705_E1
W-05-181	Brook Stickleback	42	25-51*		W-05-181_190705_E1
W-05-181	Central Mudminnow	6	29-83*	Invertebrate sample	W-05-181_190705_E1
W-05-182	Central Mudminnow	4	63-80*		W-05-182_190705_E1
W-05-182	Northern Pike	5	118-137	>20 others observed but not collected	W-05-182_190705_E1
W-05-183	Brook Stickleback	11	22-65*		W-05-183_190705_E1
W-05-183	Common Carp	30	34-57	All YOY	W-05-183_190705_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-05-185	Brook Stickleback	4	23-27*		W-05-185_200705_E1
W-05-185	Central Mudminnow	8	36-81*		W-05-185_200705_E1
W-05-187	No Catch				W-05-187_250705_E1
W-05-188	White Sucker	7	41-46	YOY, released	W-05-188_250705_E1
W-05-189	Northern Pike	2	145-340	Released 1	W-05-189_260705_B1
W-05-189	White Sucker	2	41-46	Released 19	W-05-189_260705_B1
W-05-190	No Catch				W-05-190_260705_E1
W-05-190	Northern Pike	1		Observed	W-05-190_260705_O1
W-05-191	Brook Stickleback	62	23-45*		W-05-191_260705_E1
W-05-191	Central Mudminnow	32	38-103*		W-05-191_260705_E1
W-05-191	Common Carp	8	35-77		W-05-191_260705_E1
W-05-191	Fathead Minnow	3	27-30		W-05-191_260705_E1
W-05-192	No Catch				W-05-192_260705_E1
W-05-193	Central Mudminnow	1	47*		W-05-193_260705_E1
W-05-193	Northern Pike	1	170		W-05-193_260705_E1
W-05-193	White Sucker	1	45		W-05-193_260705_E1
W-05-194	Burbot	1	107*		W-05-194_270705_E1
W-05-194	Central Mudminnow	2	45*		W-05-194_270705_E1
W-05-194	White Sucker	1	50		W-05-194_270705_E1
W-05-196	Brook Stickleback	25	24-44*		W-05-196_270705_E1
W-05-196	Finescale Dace	13	34-61		W-05-196_270705_E1
W-05-196	Longnose Dace	1	70		W-05-196_270705_E1
W-05-196	Pearl Dace	46	40, 113		W-05-196_270705_E1
W-05-196	White Sucker	2	151, 221		W-05-196_270705_E1
W-05-200	Brook Stickleback	1	38*		W-05-200_020805_E1
W-05-200	Fathead Minnow	3	33-55		W-05-200_020805_E1
W-05-201	Brook Stickleback	2	37-49*		W-05-201_020805_E1
W-05-201	Common Carp	16	23-75		W-05-201_020805_E1
W-05-201	Fathead Minnow	3	23-43		W-05-201_020805_E1
W-05-202	Common Carp	4	22-47		W-05-202_020805_E1
W-05-202	Fathead Minnow	1	24		W-05-202_020805_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-05-203	Brook Stickleback				W-05-203_030805_E1
W-05-203	Central Mudminnow	4	34-61*		W-05-203_030805_E1
W-05-203	Fathead Minnow	2	26, 33		W-05-203_030805_E1
W-05-203	Finescale Dace	2	19, 30		W-05-203_030805_E1
W-05-203	Johnny Darter	11	20-31*		W-05-203_030805_E1
W-05-203	Northern Pike	1	116		W-05-203_030805_E1
W-05-203	Northern Pike	4	300-460	Observed	W-05-203_030805_O1
W-05-203	White Sucker	16	31-37		W-05-203_030805_E1
W-05-205	Brook Stickleback	16	28-45*		W-05-205_030805_E1
W-05-205	Central Mudminnow	20	54-84*		W-05-205_030805_E1
W-05-205	Johnny Darter	6	48-55*	5 Caddis fly larvae, 1 snail	W-05-205_030805_E1
W-05-205	Northern Pike	1	123		W-05-205_030805_E1
W-05-205	White Sucker	1	165		W-05-205_030805_E1
W-05-207	Bigmouth Buffalo	2	56-85*		W-05-207_080805_E1
W-05-207	Black Bullhead	23	33-48*		W-05-207_080805_E1
W-05-207	Burbot	35	66-115*		W-05-207_080805_E1
W-05-207	Common Carp	95	49-153		W-05-207_080805_E1
W-05-207	Creek Chub	11	72-99		W-05-207_080805_E1
W-05-207	Fathead Minnow	55	19-64		W-05-207_080805_E1
W-05-207	White Sucker	1	79		W-05-207_080805_E1
W-05-208	Brook Stickleback	26	27-54*		W-05-208_100805_E1
W-05-208	Central Mudminnow	5	36-65*		W-05-208_100805_E1
W-05-208	Finescale Dace	6	29-51		W-05-208_100805_E1
W-05-208	Northern Redbelly Dace	3	26-58		W-05-208_100805_E1
W-05-208	Pearl Dace	35	32-109		W-05-208_100805_E1
W-05-209	Brook Stickleback	73	24-56*		W-05-209_100805_E1
W-05-209	Central Mudminnow	48	48-95*		W-05-209_100805_E1
W-05-209	Finescale Dace	2	30-56		W-05-209_100805_E1
W-05-209	Iowa Darter	1	49*		W-05-209_100805_E1
W-05-209	Northern Redbelly Dace	21	20-51		W-05-209_100805_E1
W-05-209	Pearl Dace	22	40-69		W-05-209_100805_E1

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X-04-001	Black Bullhead	8		Released 6	X-04-001_050504_B1
X-05-001	No Catch			1 *Orconectes virilis*	X-05-001_270405_B1
X-05-001	No Catch				X-05-001_270405_K1
X-05-002	Brook Stickleback	608	26-53*		X-05-002_270405_B1
X-05-002	Fathead Minnow	56	29-43		X-05-002_270405_B1
X-05-002	Finescale Dace	9	30-35		X-05-002_270405_B1
X-05-002	Northern Redbelly Dace	149	23-40		X-05-002_270405_B1
X-05-003	Black Bullhead	1	127*		X-05-003_290405_E1
X-05-003	Brook Stickleback	3	39-55*		X-05-003_290405_E1
X-05-003	Fathead Minnow	1	61		X-05-003_290405_E1
X-05-005	Fathead Minnow	1	38		X-05-005_290405_E1
X-05-007	Fathead Minnow	19	28-62		X-05-007_290405_E1
X-05-007	White Sucker	3	240-480	Released, 2 females (240-440 mm); 1 male (480 mm) post spawn, Sucker eggs collected	X-05-007_290405_E1
X-05-007	White Sucker	30		Observed in culvert	X-05-007_290405_O1
X-05-011	Fathead Minnow	1	22		X-05-011_030505_B1
X-05-012	Brook Stickleback	1	21*		X-05-012_030505_B1
X-05-012	Fathead Minnow	101	25-43		X-05-012_030505_B1
X-05-015	No Catch				X-05-015_030505_E1
X-05-018	Brook Stickleback	24	29-59*		X-05-018_040505_E1
X-05-018	Central Mudminnow	4	54-92*	Released 1	X-05-018_040505_E1
X-05-018	Fathead Minnow	8	28-74		X-05-018_040505_E1
X-05-018	White Sucker	15	56-58	Released 12, 134 mm is an immature male, 19 are YOY	X-05-018_040505_E1
X-05-018	White Sucker	30		Observed in culvert	X-05-018_040505_O1
X-05-020	No Catch				X-05-020_040505_E1
X-05-021	White Sucker	1	480	Released	X-05-021_040505_E1
X-05-021	White Sucker	2		Congregated on spawning riffle upstream of barrier	X-05-021_040505_O1
X-05-022	No Catch				X-05-022_040505_E1

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X-05-022	No Catch				X-05-022_040505_B1
X-05-023	Brook Stickleback	3	40-46*		X-05-023_040505_E1
X-05-023	Fathead Minnow	4	40-46		X-05-023_040505_E1
X-05-023	No Catch				X-05-023_040505_K1
X-05-024	Brook Stickleback	6	38-53*		X-05-024_050505_E1
X-05-024	Central Mudminnow	4	59-82*		X-05-024_050505_E1
X-05-024	Fathead Minnow	24	28-66		X-05-024_050505_E1
X-05-024	No Catch				X-05-024_050505_K1
X-05-024	White Sucker	30		Adult White Suckers observed congregated on riffle	X-05-024_050505_O1
X-05-026	Brook Stickleback	8	30-47*		X-05-026_050505_E1
X-05-026	Central Mudminnow	2	44, 55*		X-05-026_050505_E1
X-05-026	Fathead Minnow	3	34-37		X-05-026_050505_E1
X-05-027	Brook Stickleback	1	50*		X-05-027_060505_E1
X-05-027	Central Mudminnow	7	44-66*		X-05-027_060505_E1
X-05-027	Fathead Minnow	8	26-52		X-05-027_060505_E1
X-05-027	Johnny Darter	1	42*		X-05-027_060505_E1
X-05-028	Black Bullhead	1	122*		X-05-028_060505_E1
X-05-028	Brook Stickleback	2	38, 47*		X-05-028_060505_E1
X-05-028	Central Mudminnow	4	44-54*		X-05-028_060505_E1
X-05-028	Fathead Minnow	10	27-48		X-05-028_060505_E1
X-05-028	Northern Redbelly Dace	3	25-28		X-05-028_060505_E1
X-05-029	Black Bullhead	1	105*		X-05-029_060505_E1
X-05-029	Brook Stickleback	7	38-54*		X-05-029_060505_E1
X-05-029	Central Mudminnow	5	53-89*		X-05-029_060505_E1
X-05-029	Fathead Minnow	7	26-66		X-05-029_060505_E1
X-05-029	Johnny Darter	2	48, 65*		X-05-029_060505_E1
X-05-029	Northern Redbelly Dace	9	28-40		X-05-029_060505_E1
X-05-030	No Catch				X-05-030_100505_E1
X-05-031	Brook Stickleback	9	48-65*		X-05-031_100505_E1
X-05-031	Central Mudminnow	5	53-65*		X-05-031_100505_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-031	Fathead Minnow	5	29-68		X-05-031_100505_E1
X-05-032	No Catch				X-05-032_110505_E1
X-05-033	No Catch				X-05-033_110505_E1
X-05-034	Central Mudminnow	1	71*		X-05-034_110505_E1
X-05-035	Brook Stickleback	2	30*		X-05-035_110505_E1
X-05-035	Iowa Darter	1	44*		X-05-035_110505_E1
X-05-036	Central Mudminnow	1		Released	X-05-036_110505_E1
X-05-036	White Sucker	100's		Observed many dead (killed by humans) along bank	X-05-036_110505_O1
X-05-037	No Catch				X-05-037_120505_E1
X-05-037	No Catch				X-05-037_120505_K1
X-05-038	Brook Stickleback	3	45-58*		X-05-038_120505_E1
X-05-038	Central Mudminnow	1	96*		X-05-038_120505_E1
X-05-038	Fathead Minnow	3	42-50		X-05-038_120505_E1
X-05-038	White Sucker	1	220	Released	X-05-038_120505_E1
X-05-040	No Catch				X-05-040_120505_E1
X-05-042	Brook Stickleback	2	31, 41*		X-05-042_120505_E1
X-05-042	Central Mudminnow	2	45, 50*	One additional released	X-05-042_120505_E1
X-05-042	Fathead Minnow	2	26, 29		X-05-042_120505_E1
X-05-042	Finescale Dace	4	22-35		X-05-042_120505_E1
X-05-042	White Sucker	1	220	Released	X-05-042_120505_E1
X-05-044	No Catch				X-05-044_130505_E1
X-05-045	Blackside Darter	2	77*		X-05-045_130505_E1
X-05-045	Brook Stickleback	1	42*		X-05-045_130505_E1
X-05-045	Central Mudminnow	1	56*		X-05-045_130505_E1
X-05-045	Longnose Dace	4	65-78		X-05-045_130505_E1
X-05-046	Brook Stickleback	2	37, 38*		X-05-046_130505_E1
X-05-046	Central Mudminnow	5	43-59*		X-05-046_130505_E1
X-05-046	Fathead Minnow	2	25, 29		X-05-046_130505_E1
X-05-046	No Catch				X-05-046_130505_B1
X-05-048	Brook Stickleback	1	58*		X-05-048_140505_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-048	Central Mudminnow	1	59*		X-05-048_140505_E1
X-05-048	Fathead Minnow	15	27-68		X-05-048_140505_E1
X-05-051	No Catch				X-05-051_140505_K1
X-05-051	No Catch				X-05-051_140505_E1
X-05-052	Brook Stickleback	2	43, 57*		X-05-052_140505_E1
X-05-052	Central Mudminnow	2	68, 69*		X-05-052_140505_E1
X-05-052	Fathead Minnow	6	31-60		X-05-052_140505_E1
X-05-054	Brook Stickleback	1		Released	X-05-054_150505_E1
X-05-055	No Catch				X-05-055_150505_E1
X-05-057	No Catch				X-05-057_150505_E1
X-05-060	Central Mudminnow	1		Released	X-05-060_160505_E1
X-05-061	Central Mudminnow	1	70*		X-05-061_160505_E1
X-05-062	No Catch				X-05-062_160505_E1
X-05-062	No Catch				X-05-062_160505_K1
X-05-064	Central Mudminnow	2	42, 43*	Released 1 (70 mm)	X-05-064_160505_E1
X-05-066	Brook Stickleback	4	38-43*		X-05-066_170505_E1
X-05-066	Fathead Minnow	2	48, 57		X-05-066_170505_E1
X-05-067	No Catch				X-05-067_170505_E1
X-05-067	No Catch				X-05-067_170505_L1
X-05-069	Brook Stickleback	271	29-66*		X-05-069_170505_E1
X-05-069	Fathead Minnow	24	37-68		X-05-069_170505_E1
X-05-069	Finescale Dace	29	29-53		X-05-069_170505_E1
X-05-069	Northern Redbelly Dace	8	36-43		X-05-069_170505_E1
X-05-070	Brook Stickleback	4	21-49*		X-05-070_180505_E1
X-05-070	Finescale Dace	1	41		X-05-070_180505_E1
X-05-070	No Catch				X-05-070_180505_L1
X-05-071	Brook Stickleback	3	50-52*		X-05-071_180505_E1
X-05-072	Brook Stickleback	14	30-47*		X-05-072_180505_E1
X-05-072	Fathead Minnow	5	22-33		X-05-072_180505_E1
X-05-079	Brook Stickleback	4	45-60*		X-05-079_190505_B1
X-05-079	Fathead Minnow	1	42		X-05-079_190505_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-080	Brook Stickleback	3	49*		X-05-080_190505_E1
X-05-080	Fathead Minnow	1	40		X-05-080_190505_E1
X-05-081	No Catch				X-05-081_190505_E1
X-05-083	No Catch				X-05-083_190505_E1
X-05-084	Brook Stickleback	63	32-55*		X-05-084_200505_E1
X-05-084	Central Mudminnow	4	54-62*		X-05-084_200505_E1
X-05-084	Fathead Minnow	1	29		X-05-084_200505_E1
X-05-085	Central Mudminnow	2	59, 64*		X-05-085_200505_D1
X-05-085	No Catch				X-05-085_200505_E1
X-05-086	No Catch				X-05-086_200505_E1
X-05-088	Brook Stickleback	35	34-60*	Invertebrate sample	X-05-088_240505_E1
X-05-088	Central Mudminnow	4	55-92*		X-05-088_240505_E1
X-05-088	Fathead Minnow	4	58-71		X-05-088_240505_E1
X-05-088	White Sucker	2	55, 150		X-05-088_240505_E1
X-05-089	Brook Stickleback	15	29-53*		X-05-089_250505_D1
X-05-089	Central Mudminnow	1	48*		X-05-089_250505_D1
X-05-091	Central Mudminnow	13	57-85*		X-05-091_250505_E1
X-05-093	Fathead Minnow	3	54-70		X-05-093_270505_B1
X-05-094	Brook Stickleback	1	54*		X-05-094_270505_E1
X-05-094	Fathead Minnow	8	45-71		X-05-094_270505_E1
X-05-095	Black Bullhead	1	158*		X-05-095_300505_E1
X-05-095	Central Mudminnow	2	77-111*		X-05-095_300505_E1
X-05-095	Fathead Minnow	4	42-57		X-05-095_300505_E1
X-05-096	No Catch				X-05-096_300505_B1
X-05-098	Central Mudminnow	1	60*		X-05-098_300505_E1
X-05-098	Fathead Minnow	23	31-59	8 tadpole shrimp (*Hepidurus arcticus*) - Indicate temporary water that goes dry seasonally. Eggs have dormant stage and hatch when area is flooded in spring.	X-05-098_300505_E1
X-05-099	Brook Stickleback	1	22*		X-05-099_310505_E1
X-05-099	Fathead Minnow	45	27-57		X-05-099_310505_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-100	Brook Stickleback	2	47*		X-05-100_310505_E1
X-05-100	Central Mudminnow	3	57-68*		X-05-100_310505_E1
X-05-100	Fathead Minnow	116	24-79		X-05-100_310505_E1
X-05-100	White Sucker	1	69		X-05-100_310505_E1
X-05-102	Brook Stickleback	3	39-41*		X-05-102_310505_E1
X-05-102	Central Mudminnow	3	52-62*		X-05-102_310505_E1
X-05-102	Fathead Minnow	18	26-78	Many in spawning colours observed	X-05-102_310505_E1
X-05-103	Brook Stickleback	3	44-57*		X-05-103_310505_E1
X-05-103	Central Mudminnow	2	84, 95*		X-05-103_310505_E1
X-05-104	Brook Stickleback	9	41-59*		X-05-104_310505_E1
X-05-104	Central Mudminnow	1	78*		X-05-104_310505_E1
X-05-104	Creek Chub	7	38-147	One additional 200 mm released	X-05-104_310505_E1
X-05-104	Fathead Minnow	15	38-80		X-05-104_310505_E1
X-05-105	Brook Stickleback	13	35-55*		X-05-105_010605_E1
X-05-105	Fathead Minnow	45	35-76		X-05-105_010605_E1
X-05-106	Brook Stickleback	53	18-36*		X-05-106_010605_E1
X-05-106	Fathead Minnow	8	23-67		X-05-106_010605_E1
X-05-107	Brook Stickleback	61	45-69*		X-05-107_010605_E1
X-05-107	Creek Chub	17	60-158		X-05-107_010605_E1
X-05-107	Fathead Minnow	90	53-72		X-05-107_010605_E1
X-05-107	Pearl Dace	3	63-67		X-05-107_010605_E1
X-05-107	White Sucker	4	106-171		X-05-107_010605_E1
X-05-109	Brook Stickleback	1	52*		X-05-109_010605_E1
X-05-109	Fathead Minnow	5	28-118		X-05-109_010605_E1
X-05-111	Brook Stickleback	4	33-60*		X-05-111_020605_E1
X-05-111	Creek Chub	8	62-133		X-05-111_020605_E1
X-05-111	Fathead Minnow	1	67		X-05-111_020605_E1
X-05-111	White Sucker	3	100-167		X-05-111_020605_E1
X-05-112	Brook Stickleback	24	42-68*		X-05-112_020605_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-112	Fathead Minnow	30	42-70	1 vial with 7 young of the year Cyprinids - species unidentified, vial filled with 70% ethanol bottled with P. promelas	X-05-112_020605_E1
X-05-112	Finescale Dace	4	48-58		X-05-112_020605_E1
X-05-114	Brook Stickleback	15	28-50*		X-05-114_020605_E1
X-05-114	Fathead Minnow	55	21-74		X-05-114_020605_E1
X-05-115	Fathead Minnow	1		Released	X-05-115_020605_B1
X-05-117	Brook Stickleback	2	51, 53*		X-05-117_020605_E1
X-05-117	Fathead Minnow	9	39-67		X-05-117_020605_E1
X-05-118	Brook Stickleback	2	15, 47*		X-05-118_060605_E1
X-05-118	Fathead Minnow	7	43-71		X-05-118_060605_E1
X-05-120	Fathead Minnow	2	35, 49		X-05-120_060605_E1
X-05-120	Johnny Darter	1	55*	Mature male	X-05-120_060605_E1
X-05-120	Northern Pike	2	72, 75		X-05-120_060605_E1
X-05-121	Brook Stickleback	2	42,49*		X-05-121_060605_E1
X-05-121	Central Mudminnow	1	102*		X-05-121_060605_E1
X-05-121	Creek Chub	5	73-160		X-05-121_060605_E1
X-05-121	Fathead Minnow	9	21-81		X-05-121_060605_E1
X-05-121	Western Blacknose Dace	1	67		X-05-121_060605_E1
X-05-121	White Sucker	3	37-101		X-05-121_060605_E1
X-05-122	Blackside Darter	1	46*	Juvenile	X-05-122_060605_E1
X-05-122	Brook Stickleback	8	40-65*		X-05-122_060605_E1
X-05-122	Central Mudminnow	1	63*		X-05-122_060605_E1
X-05-122	Creek Chub	14	40-143		X-05-122_060605_E1
X-05-122	Fathead Minnow	7	37-77		X-05-122_060605_E1
X-05-122	Iowa Darter	1	46*		X-05-122_060605_E1
X-05-122	Johnny Darter	22	39-61*	4 spawning males	X-05-122_060605_E1
X-05-122	Western Blacknose Dace	51	33-86		X-05-122_060605_E1
X-05-122	White Sucker	3	67-155		X-05-122_060605_E1
X-05-123	Brook Stickleback	11	33-46*		X-05-123_070605_E1
X-05-123	Central Mudminnow	2	48, 52*		X-05-123_070605_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-123	Fathead Minnow	15	37-62		X-05-123_070605_E1
X-05-125	Brook Stickleback	12	26-47*		X-05-125_070605_E1
X-05-125	Central Mudminnow	3	42-85*		X-05-125_070605_E1
X-05-125	Creek Chub	7	31-122		X-05-125_070605_E1
X-05-125	Finescale Dace	2	44,45		X-05-125_070605_E1
X-05-125	Johnny Darter	1	34*		X-05-125_070605_E1
X-05-125	White Sucker	1	220	Released	X-05-125_070605_E1
X-05-126	Brook Stickleback	24	32-67*		X-05-126_070605_E1
X-05-126	Fathead Minnow	5	34-41		X-05-126_070605_E1
X-05-127	No Catch				X-05-127_090605_E1
X-05-128	Bigmouth Shiner	3	31-46		X-05-128_090605_E1
X-05-128	Brassy Minnow	11	45-52		X-05-128_090605_E1
X-05-128	Brook Stickleback	11	34-46*		X-05-128_090605_E1
X-05-128	Common Shiner	19	33-101		X-05-128_090605_E1
X-05-128	Creek Chub	24	37-166		X-05-128_090605_E1
X-05-128	Fathead Minnow	10	30-45		X-05-128_090605_E1
X-05-128	Johnny Darter	6	43-62*		X-05-128_090605_E1
X-05-128	Sand Shiner	1	40		X-05-128_090605_E1
X-05-128	Western Blacknose Dace	19	28-83		X-05-128_090605_E1
X-05-128	White Sucker	16	55-77		X-05-128_090605_E1
X-05-129	Fathead Minnow	4	31-51		X-05-129_100605_E1
X-05-130	Brook Stickleback	1	22*		X-05-130_100605_E1
X-05-130	Fathead Minnow	11	53-80		X-05-130_100605_E1
X-05-132	No Catch				X-05-132_130605_E1
X-05-133	Fathead Minnow	8	48-61		X-05-133_130605_E1
X-05-136	No Catch				X-05-136_130605_E1
X-05-137	Brook Stickleback	1	61*		X-05-137_140605_E1
X-05-137	Fathead Minnow	17	40-57		X-05-137_140605_E1
X-05-138	Fathead Minnow	2	47,48		X-05-138_140605_E1
X-05-139	No Catch				X-05-139_140605_E1
X-05-140	Brook Stickleback	43	47-68*		X-05-140_140605_E1

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X-05-140	Fathead Minnow	139	44-62		X-05-140_140605_E1
X-05-140	Northern Pike	1	500	Observed but unable to collect	X-05-140_140605_O1
X-05-144	Brook Stickleback	412	19-61*		X-05-144_150605_E1
X-05-144	Creek Chub	11	52-129		X-05-144_150605_E1
X-05-144	Fathead Minnow	179	41-70		X-05-144_150605_E1
X-05-144	Pearl Dace	2	61, 77		X-05-144_150605_E1
X-05-144	Western Blacknose Dace	2	72, 76		X-05-144_150605_E1
X-05-144	White Sucker	12	68-120		X-05-144_150605_E1
X-05-145	Brook Stickleback	60	18-55*		X-05-145_150605_E1
X-05-145	Common Shiner	2	57-87		X-05-145_150605_E1
X-05-145	Creek Chub	15	57-136		X-05-145_150605_E1
X-05-145	Fathead Minnow	26	40-69		X-05-145_150605_E1
X-05-145	Pearl Dace	15	44-119		X-05-145_150605_E1
X-05-145	Western Blacknose Dace	6	48-77		X-05-145_150605_E1
X-05-145	White Sucker	5	70-173		X-05-145_150605_E1
X-05-146	Brook Stickleback	23	30-65*	sample number X-05-146a	X-05-146_160605_E1
X-05-146	Common Shiner	11	25-136	sample number X-05-146a	X-05-146_160605_E1
X-05-146	Fathead Minnow	40	20-150	sample number X-05-146a	X-05-146_160605_E1
X-05-146	Johnny Darter	14	32-42*	sample number X-05-146a	X-05-146_160605_E1
X-05-146	Western Blacknose Dace	143	22-90	sample number X-05-146a	X-05-146_160605_E1
X-05-146	White Sucker	1	61	sample number X-05-146a	X-05-146_160605_E1
X-05-148	No Catch				X-05-148_170605_E1
X-05-150	Brassy Minnow	12	42-56		X-05-150_210605_E1
X-05-150	Brook Stickleback	15	16-48*		X-05-150_210605_E1
X-05-150	Common Shiner	15	32-114		X-05-150_210605_E1
X-05-150	Creek Chub	20	35-131		X-05-150_210605_E1
X-05-150	Fathead Minnow	4	18-53		X-05-150_210605_E1
X-05-150	Western Blacknose Dace	23	33-54		X-05-150_210605_E1
X-05-150	White Sucker	88	18-19*, 150	Young of the year bottled separately	X-05-150_210605_E1
X-05-151	Brassy Minnow	12	38-54		X-05-151_210605_E1
X-05-151	Brook Stickleback	27	21-51*		X-05-151_210605_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-151	Common Shiner	46	27-50		X-05-151_210605_E1
X-05-151	Creek Chub	15	35-115		X-05-151_210605_E1
X-05-151	Fathead Minnow	1	35		X-05-151_210605_E1
X-05-151	Johnny Darter	3	44-50*		X-05-151_210605_E1
X-05-151	Western Blacknose Dace	24	30-84		X-05-151_210605_E1
X-05-153	No Catch				X-05-153_210605_E1
X-05-154	Black Bullhead	2	115, 117*	(sample number X-05-154a)	X-05-154_210605_E1
X-05-154	Brassy Minnow	2	53, 69	(sample number X-05-154a)	X-05-154_210605_E1
X-05-154	Brook Stickleback	12	47-63*	(sample number X-05-154a)	X-05-154_210605_E1
X-05-154	Creek Chub	1	93	(sample number X-05-154a)	X-05-154_210605_E1
X-05-154	Fathead Minnow	117	37-68	(sample number X-05-154a)	X-05-154_210605_E1
X-05-154	Iowa Darter	1	50*	(sample number X-05-154a)	X-05-154_210605_E1
X-05-154	White Sucker	1	75	(sample number X-05-154a)	X-05-154_210605_E1
X-05-155	Brook Stickleback	10	29-80*		X-05-155_220605_E1
X-05-155	Fathead Minnow	26	36-79		X-05-155_220605_E1
X-05-157	No Catch				X-05-157_220605_E1
X-05-162	Fathead Minnow	20	41-55		X-05-162_230605_E1
X-05-163	No Catch				X-05-163_230605_E1
X-05-164	No Catch				X-05-164_230605_E1
X-05-165	Brook Stickleback	3	32-44*		X-05-165_270605_E1
X-05-165	Fathead Minnow	58	28-58		X-05-165_270605_E1
X-05-167	Brook Stickleback	22	23-63*		X-05-167_280605_E1
X-05-167	Fathead Minnow	19	45-58		X-05-167_280605_E1
X-05-167	Pearl Dace	22	51-70		X-05-167_280605_E1
X-05-168	Brook Stickleback	97	23-60*		X-05-168_280605_E1
X-05-169	Fathead Minnow	2	53, 60		X-05-169_280605_E1
X-05-168	Fathead Minnow	31	28-60		X-05-168_280605_E1
X-05-169	Brook Stickleback	122	20-60*		X-05-169_280605_E1
X-05-171	Brook Stickleback	95	46-70*		X-05-171_280605_E1
X-05-171	Fathead Minnow	12	32-62		X-05-171_280605_E1
X-05-172	Fathead Minnow	3	42-62		X-05-172_290605_E1

Appendix 5: **List of all fish captures made between 2002 and 2006, showing site number, common name and number (#) of fish collected, fork (or total*) length in millimetres (mm), any comments on the collection and the fish capture identification (ID) number.**

Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-172	Northern Pike	2	122, 151		X-05-172_290605_E1
X-05-173	Fathead Minnow	11	51-64		X-05-173_290605_E1
X-05-173	Northern Pike	1	146		X-05-173_290605_E1
X-05-176	No Catch				X-05-176_040705_E1
X-05-176	No Catch				X-05-176_040705_E2
X-05-177	Brook Stickleback	37	22-61*		X-05-177_040705_D1
X-05-179	No Catch				X-05-179_050705_E1
X-05-181	Brook Stickleback	133	26-52*		X-05-181_060705_E1
X-05-181	Central Mudminnow	35	55-87*		X-05-181_060705_E1
X-05-181	Fathead Minnow	3	22-47		X-05-181_060705_E1
X-05-181	White Sucker	3	29-39*		X-05-181_060705_E1
X-05-182	Brook Stickleback	119	20-62*	Invertebrate sample	X-05-182_060705_E1
X-05-182	Central Mudminnow	62	28-115*		X-05-182_060705_E1
X-05-182	White Sucker	3	39-91		X-05-182_060705_E1
X-05-183	Brook Stickleback	1	18*		X-05-183_060705_E1
X-05-183	Central Mudminnow	2	42, 43*		X-05-183_060705_E1
X-05-185	Central Mudminnow	5	34-82*		X-05-185_070705_E1
X-05-185	Common Carp	1	830	Released	X-05-185_070705_E1
X-05-185	Northern Pike	2	93-102		X-05-185_070705_E1
X-05-185	White Sucker	1	65		X-05-185_070705_E1
X-05-185	Yellow Perch	1	113		X-05-185_070705_E1
X-05-186	No Catch				X-05-186_070705_E1
X-05-188	Brook Stickleback	2		Released	X-05-188_070705_E1
X-05-188	Central Mudminnow	1		Released	X-05-188_070705_E1
X-05-189	Northern Pike	1	80	Observed	X-05-189_080705_O1
X-05-189	Northern Pike	1	121		X-05-189_080705_E1
X-05-190	Brook Stickleback	48	21-49*		X-05-190_110705_E1
X-05-190	Fathead Minnow	6	19-48		X-05-190_110705_E1
X-05-191	White Sucker	1		Released	X-05-191_120705_E1
X-05-192	Iowa Darter	60	35-59*		X-05-192_130705_E1
X-05-192	Northern Pike	1	123		X-05-192_130705_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-192	Pearl Dace	5	29-77		X-05-192_130705_E1
X-05-192	White Sucker	13	44-106		X-05-192_130705_E1
X-05-192	Yellow Perch	4	72-80		X-05-192_130705_E1
X-05-193	Brook Stickleback	2	35, 45*		X-05-193_130705_E1
X-05-193	Creek Chub	4	119-126		X-05-193_130705_E1
X-05-193	Fathead Minnow	10	38-66		X-05-193_130705_E1
X-05-193	Finescale Dace	15	38-66		X-05-193_130705_E1
X-05-193	Johnny Darter	5	42-55*		X-05-193_130705_E1
X-05-193	Pearl Dace	22	51-83		X-05-193_130705_E1
X-05-193	Western Blacknose Dace	63	51-85		X-05-193_130705_E1
X-05-193	White Sucker	3	82-118		X-05-193_130705_E1
X-05-194	Brook Stickleback	1	54*		X-05-194_130705_E1
X-05-194	Common Shiner	16	52-98		X-05-194_130705_E1
X-05-194	Creek Chub	7	36-141		X-05-194_130705_E1
X-05-194	Fathead Minnow	2	41, 50		X-05-194_130705_E1
X-05-194	Finescale Dace	2	40, 60		X-05-194_130705_E1
X-05-194	Iowa Darter	1	39*		X-05-194_130705_E1
X-05-194	Johnny Darter	4	40-49*		X-05-194_130705_E1
X-05-194	Pearl Dace	42	40-87		X-05-194_130705_E1
X-05-194	Western Blacknose Dace	9	29-77		X-05-194_130705_E1
X-05-195	Brook Stickleback	63	22-54*		X-05-195_130705_E1
X-05-195	Fathead Minnow	17	46-61		X-05-195_130705_E1
X-05-195	Finescale Dace	83	46-61		X-05-195_130705_E1
X-05-195	Pearl Dace	16	35-67		X-05-195_130705_E1
X-05-195	Unidentified minnow	2	16, 17*	YOY	X-05-195_130705_E1
X-05-195	Western Blacknose Dace	40	39-62		X-05-195_130705_E1
X-05-196	Brook Stickleback	99	22-40*		X-05-196_140705_E1
X-05-196	Creek Chub	1	55		X-05-196_140705_E1
X-05-198	Brassy Minnow	1	72		X-05-198_140705_E1
X-05-198	Brook Stickleback	21	35-56*		X-05-198_140705_E1
X-05-198	Creek Chub	1	138		X-05-198_140705_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-198	Fathead Minnow	7	52-66		X-05-198_140705_E1
X-05-198	Finescale Dace	90	32-78		X-05-198_140705_E1
X-05-198	Iowa Darter	1	37*		X-05-198_140705_E1
X-05-198	Pearl Dace	4	50-110		X-05-198_140705_E1
X-05-198	Western Blacknose Dace	15	33-66		X-05-198_140705_E1
X-05-198	White Sucker	9	59-130		X-05-198_140705_E1
X-05-199	Brook Stickleback	72	33-65*		X-05-199_140705_E1
X-05-199	Fathead Minnow	81	39-74		X-05-199_140705_E1
X-05-199	Finescale Dace	158	40-71		X-05-199_140705_E1
X-05-199	Western Blacknose Dace	3	40-60		X-05-199_140705_E1
X-05-199	White Sucker	16	64-87		X-05-199_140705_E1
X-05-200	Brook Stickleback	9	34-59*		X-05-200_150705_E1
X-05-200	Creek Chub	1	47		X-05-200_150705_E1
X-05-201	Brook Stickleback	15	29-40*		X-05-201_030805_D1
X-05-201	Fathead Minnow	1	35		X-05-201_030805_D1
X-05-201	Finescale Dace	2	38, 48		X-05-201_030805_D1
X-05-202	Brook Stickleback	13	30-62*		X-05-202_030805_B1
X-05-202	Common Shiner	2	36, 38		X-05-202_030805_B1
X-05-202	Creek Chub	3	35-41		X-05-202_030805_B1
X-05-202	Fathead Minnow	2	61, 62		X-05-202_030805_B1
X-05-202	Pearl Dace	4	40-50		X-05-202_030805_B1
X-05-202	Western Blacknose Dace	8	39-43		X-05-202_030805_B1
X-05-204	Brook Stickleback	6	35-45*		X-05-204_040805_E1
X-05-204	Central Mudminnow	4	53-90*		X-05-204_040805_E1
X-05-204	Yellow Perch	4	56-66		X-05-204_040805_E1
X-05-207	Brook Stickleback	99	23-49*		X-05-207_040805_E1
X-05-208	Common Carp	32	79-125		X-05-208_040805_E1
X-05-209	Brook Stickleback	23	30-65*	(sample number X-05-146b)	X-05-209_160605_E1
X-05-209	Common Shiner	11	25-136	(sample number X-05-146b)	X-05-209_160605_E1
X-05-209	Fathead Minnow	40	20-150	(sample number X-05-146b)	X-05-209_160605_E1
X-05-209	Johnny Darter	14	32-42*	(sample number X-05-146b)	X-05-209_160605_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
X-05-209	Western Blacknose Dace	143	22-90	(sample number X-05-146b)	X-05-209_160605_E1
X-05-209	White Sucker	1	61	(sample number X-05-146b)	X-05-209_160605_E1
X-05-210	Brook Stickleback	6	42-50*	(sample number X-05-146b)	X-05-210_220605_E1
X-05-210	Fathead Minnow	20	38-58	(sample number X-05-146b)	X-05-210_220605_E1
D-06-001	Creek Chub	2	150, 160	Released	D-06-001_060706_E1
D-06-001	Northern Pike	1		Immature	D-06-001_060706_E1
D-06-001	Common Shiner	6			D-06-001_060706_E1
D-06-001	Western Blacknose Dace	8			D-06-001_060706_E1
D-06-001	Longnose Dace	4			D-06-001_060706_E1
D-06-001	White Sucker	1	186	Immature	D-06-001_060706_E1
W-06-001	Emerald Shiner	3	22-23		W-06-001_090506_E1
W-06-001	Fathead Minnow	8	20-40		W-06-001_090506_E1
W-06-003	Fathead Minnow	11	30-46		W-06-003_090506_E1
W-06-004	No Catch				W-06-004_090506_E1
W-06-007	Fathead Minnow	2	41, 42		W-06-007_100506_E1
W-06-008	No Catch				W-06-008_100506_E1
W-06-009	Fathead Minnow	1		Released	W-06-009_100506_E1
W-06-010	Brook Stickleback	162	54-70*	Released additional 300	W-06-010_100506_B1
W-06-010	Fathead Minnow	227	33-71	Released additional 400	W-06-010_100506_B1
W-06-012	Brook Stickleback	1	45*	Ripe female	W-06-012_110506_E1
W-06-012	Fathead Minnow	13	23-36		W-06-012_110506_E1
W-06-015	Fathead Minnow	11	52-70	All in spawning condition	W-06-015_110506_E1
W-06-016	Fathead Minnow	201	29-52		W-06-016_110506_E1
W-06-017	Brook Stickleback	13	40-61*		W-06-017_120506_E1
W-06-017	Fathead Minnow	27	26-69		W-06-017_120506_E1
W-06-018	Brook Stickleback	23	31-58*		W-06-018_120506_E1
W-06-018	Fathead Minnow	60	24-69		W-06-018_120506_E1
W-06-019	Brook Stickleback	6	37-48*		W-06-019_150506_E1
W-06-019	Emerald Shiner	66	21-40	Released an additional 150	W-06-019_150506_E1
W-06-019	Fathead Minnow	18	27-55		W-06-019_150506_E1
W-06-019	Northern Pike	1	227		W-06-019_150506_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-019	Yellow Perch	3	59-70		W-06-019_150506_E1
W-06-020	Brook Stickleback	8	35-53*		W-06-020_150506_E1
W-06-020	Central Mudminnow	10	35-68*	Note: Numerous Amphipods in sample: 7 Limnaea snails, 1 Unionia snail	W-06-020_150506_E1
W-06-020	Fathead Minnow	25	38-62		W-06-020_150506_E1
W-06-021	No Catch				W-06-021_160506_E1
W-06-022	Black Bullhead	1	208*		W-06-022_160506_E1
W-06-022	Brook Stickleback	2	40, 52*		W-06-022_160506_E1
W-06-022	Central Mudminnow	8	50-105*		W-06-022_160506_E1
W-06-022	White Sucker	1	92	Immature	W-06-022_160506_E1
W-06-023	Black Bullhead	1	54*		W-06-023_160506_E1
W-06-023	Brook Stickleback	1	52*		W-06-023_160506_E1
W-06-023	Central Mudminnow	1	96*		W-06-023_160506_E1
W-06-023	Fathead Minnow	74	33-65		W-06-023_160506_E1
W-06-023	Johnny Darter	2	49, 54*		W-06-023_160506_E1
W-06-023	White Sucker	3	85-147	Released one mature White Sucker	W-06-023_160506_E1
W-06-025	Brook Stickleback	9	35-41*		W-06-025_170506_E1
W-06-025	Central Mudminnow	1	49*		W-06-025_170506_E1
W-06-025	Fathead Minnow	21	32-64		W-06-025_170506_E1
W-06-025	Northern Pike	1	233		W-06-025_170506_E1
W-06-025	White Sucker	1	76		W-06-025_170506_E1
W-06-025	Yellow Perch	1	60		W-06-025_170506_E1
W-06-026	Brook Stickleback	1	34*		W-06-026_170506_E1
W-06-026	Common Carp	1	600	Released	W-06-026_170506_E1
W-06-026	Fathead Minnow	36	31-61	All larger specimens have a rosy lateral pigmentation	W-06-026_170506_E1
W-06-026	Iowa Darter	1	39*		W-06-026_170506_E1
W-06-026	Logperch	2	74, 82*		W-06-026_170506_E1
W-06-026	Spottail Shiner	1	71		W-06-026_170506_E1
W-06-027	Brook Stickleback	13	30-43*		W-06-027_170506_B1
W-06-027	Fathead Minnow	98	28-60		W-06-027_170506_B1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-027	White Sucker	1		Released 1 mature White Sucker	W-06-027_170506_B1
W-06-028	Brook Stickleback	17	33-48*		W-06-028_170506_E1
W-06-028	Central Mudminnow	4	50-71*		W-06-028_170506_E1
W-06-028	Fathead Minnow	20	34-59		W-06-028_170506_E1
W-06-028	Northern Pike	1		Released mature Northern Pike	W-06-028_170506_E1
W-06-028	Yellow Perch	3	59-62		W-06-028_170506_E1
W-06-029	Central Mudminnow	2	60-73*		W-06-029_230506_E1
W-06-029	Fathead Minnow	58	32-56		W-06-029_230506_E1
W-06-029	Spotfin Shiner	1	61		W-06-029_230506_E1
W-06-029	White Sucker	4	95-105		W-06-029_230506_E1
W-06-030	Blackside Darter	1	57*		W-06-030_230506_E1
W-06-030	Brook Stickleback	3	48-55*		W-06-030_230506_E1
W-06-030	Central Mudminnow	5	63-80*		W-06-030_230506_E1
W-06-030	Fathead Minnow	14	42-56		W-06-030_230506_E1
W-06-031	Black Bullhead	2	155, 173*		W-06-031_230506_E1
W-06-031	Blackside Darter	6	56-85*		W-06-031_230506_E1
W-06-031	Central Mudminnow	1	53*	Tail broken	W-06-031_230506_E1
W-06-031	Creek Chub	3	94-131		W-06-031_230506_E1
W-06-031	Fathead Minnow	20	39-58		W-06-031_230506_E1
W-06-031	Pearl Dace	1	128		W-06-031_230506_E1
W-06-031	Tadpole Madtom	1	75*		W-06-031_230506_E1
W-06-031	White Sucker	5	83-282	One is mature male, 197 mm spawning tubercles	W-06-031_230506_E1
W-06-032	Brook Stickleback	4	44-50*	All sexually mature females	W-06-032_240506_E1
W-06-032	Creek Chub	22	94-167	Mature ripe female (167 mm), released 15 Creek Chubs	W-06-032_240506_E1
W-06-032	Fathead Minnow	49	36-70	Many sexually mature	W-06-032_240506_E1
W-06-032	Johnny Darter	2	66, 67*	Sexually mature	W-06-032_240506_E1
W-06-032	Western Blacknose Dace	1	79	Sexually mature	W-06-032_240506_E1
W-06-032	White Sucker	20	93-120	Released 14,immature White Suckers	W-06-032_240506_E1
W-06-036	Brook Stickleback	39	38-53*		W-06-036_250506_E1

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W-06-036	Central Mudminnow	7	50-104*		W-06-036_250506_E1
W-06-036	Fathead Minnow	23	40-70	Most males & females in spawning condition (ripe)	W-06-036_250506_E1
W-06-037	Brook Stickleback	3		Released	W-06-037_250506_E1
W-06-040	No Catch				W-06-040_260506_E1
W-06-043	Brassy Minnow	1	80		W-06-043_260506_E1
W-06-043	Brook Stickleback	5	44-62*		W-06-043_260506_E1
W-06-043	Creek Chub	1	109		W-06-043_260506_E1
W-06-043	Fathead Minnow	11	52-70		W-06-043_260506_E1
W-06-043	Western Blacknose Dace	2	73, 77		W-06-043_260506_E1
W-06-043	White Sucker	2	160, 163		W-06-043_260506_E1
W-06-045	Brook Stickleback	1	52*		W-06-045_260506_E1
W-06-045	Common Shiner	16	29-117	Released 5 Common Shiners, some mature females and small males with tubercles	W-06-045_260506_E1
W-06-045	Creek Chub	17	51-173	Released 7 other Creek Chub	W-06-045_260506_E1
W-06-045	Fathead Minnow	8	49	Released 7 other Fathead Minnows	W-06-045_260506_E1
W-06-045	Johnny Darter	2	49-55*	Smallest is mature female, largest is mature male	W-06-045_260506_E1
W-06-045	Northern Redbelly Dace	3			W-06-045_260506_E1
W-06-045	Western Blacknose Dace	17	48-74	Released 7 other Western Blacknose Dace, some mature males & females in sample	W-06-045_260506_E1
W-06-045	White Sucker	17	53-82	Released 11 other White Suckers immature	W-06-045_260506_E1
W-06-046	No Catch				W-06-046_270506_E1
W-06-049	Brook Stickleback	4	47-61*		W-06-049_270506_E1
W-06-049	Creek Chub	2	94, 142	Largest is a mature male	W-06-049_270506_E1
W-06-049	Fathead Minnow	62	39-68		W-06-049_270506_E1
W-06-049	Pearl Dace	7	73-92		W-06-049_270506_E1
W-06-049	White Sucker	1	176	Female, mature	W-06-049_270506_E1
W-06-054	Fathead Minnow	49	29-62		W-06-054_300506_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-055	Brook Stickleback	1	55*		W-06-055_300506_E1
W-06-055	Fathead Minnow	16	37-64	Many have a rosy pigment along the lateral line	W-06-055_300506_E1
W-06-055	White Sucker	1	90		W-06-055_300506_E1
W-06-056	Brook Stickleback	5	38-56*		W-06-056_310506_E1
W-06-056	Fathead Minnow	15	36-49		W-06-056_310506_E1
W-06-056	White Sucker	1	102	Immature	W-06-056_310506_E1
W-06-058	Black Bullhead	1	193*		W-06-058_010606_B1
W-06-058	Fathead Minnow	30	43-58		W-06-058_010606_B1
W-06-060	Black Bullhead	4	89, 195*	Released 2 Black Bullheads	W-06-060_010606_B1
W-06-060	Brook Stickleback	2	47, 48*		W-06-060_010606_B1
W-06-060	Central Mudminnow	2	100, 108*		W-06-060_010606_B1
W-06-060	Fathead Minnow	254	37-63	Released 200 Fathead Minnows	W-06-060_010606_B1
W-06-060	Northern Pike	3	40-44	All are YOY	W-06-060_010606_B1
W-06-060	White Sucker	2	97, 115		W-06-060_010606_B1
W-06-060	Yellow Perch	1	98		W-06-060_010606_B1
W-06-061	Northern Pike	3	198-233	Mature	W-06-061_060606_E1
W-06-062	Brook Stickleback	1	45*		W-06-062_060606_E1
W-06-062	Fathead Minnow	42	25-68		W-06-062_060606_E1
W-06-062	Spottail Shiner	3	40-81		W-06-062_060606_E1
W-06-062	White Sucker	2	69, 85	Immature	W-06-062_060606_E1
W-06-062	Yellow Perch	3	56-128	Immature	W-06-062_060606_E1
W-06-064	No Catch				W-06-064_070606_E1
W-06-065	No Catch				W-06-065_070606_E1
W-06-066	Brook Stickleback	103	36-59*		W-06-066_070606_E1
W-06-066	Fathead Minnow	17	42-65		W-06-066_070606_E1
W-06-066	Finescale Dace	14	47-74	Many show characteristics of *P. eos*	W-06-066_070606_E1
W-06-066	Pearl Dace	2	43, 72		W-06-066_070606_E1
W-06-067	Brook Stickleback	2	43, 49*		W-06-067_080606_E1
W-06-067	Common Shiner	17	65-142	Several are mature males with tubercles	W-06-067_080606_E1
W-06-067	Creek Chub	1	46		W-06-067_080606_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-067	Fathead Minnow	4	36-62		W-06-067_080606_E1
W-06-067	Longnose Dace	10	62-86	In spawning colours	W-06-067_080606_E1
W-06-067	Western Blacknose Dace	2	64, 75		W-06-067_080606_E1
W-06-068	Brook Stickleback	4	49-56*		W-06-068_080606_E1
W-06-068	Creek Chub	1	151		W-06-068_080606_E1
W-06-068	Fathead Minnow	2	52-67		W-06-068_080606_E1
W-06-068	Finescale Dace	9	57-85		W-06-068_080606_E1
W-06-068	Pearl Dace	1	83		W-06-068_080606_E1
W-06-070	Blackside Darter	3	56-74*		W-06-070_120606_E1
W-06-070	Burbot	4	133-162*		W-06-070_120606_E1
W-06-070	Johnny Darter	3	40-52*		W-06-070_120606_E1
W-06-070	Rock Bass	1	95		W-06-070_120606_E1
W-06-070	White Sucker	2	21, 24*	Immature	W-06-070_120606_E1
W-06-078	Blackside Darter	1	55*		W-06-078_140606_E1
W-06-078	Brook Stickleback	1	39*		W-06-078_140606_E1
W-06-078	Central Mudminnow	4	42-82*		W-06-078_140606_E1
W-06-078	Fathead Minnow	1	37		W-06-078_140606_E1
W-06-078	Northern Pike	1	308	Mature, released	W-06-078_140606_E1
W-06-078	White Sucker	2	110, 300	300mm released, 110mm immature	W-06-078_140606_E1
W-06-074	Brook Stickleback	26	31-46*		W-06-074_130606_E1
W-06-074	Central Mudminnow	11	58-91*		W-06-074_130606_E1
W-06-074	Finescale Dace	9	36-67	*P. neogaeus/P. eos* hybrids in sample, a few specimens identified as *P. eos* show some characteristics of *P. neogaeus*	W-06-074_130606_E1
W-06-074	Northern Redbelly Dace	44	31-74		W-06-074_130606_E1
W-06-074	Pearl Dace	16	49-62		W-06-074_130606_E1
W-06-076	No Catch				W-06-076_130606_E1
W-06-077	Brook Stickleback	6	27-58*		W-06-077_130606_E1
W-06-077	Central Mudminnow	37	42-81*		W-06-077_130606_E1
W-06-078	Northern Pike	1	308	Released 1 mature Northern Pike	W-06-078_140606_E1
W-06-078	White Sucker	1		Released 1 mature White Sucker	W-06-078_140606_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-079	Brook Stickleback	7	44-58*		W-06-079_140606_E1
W-06-079	Central Mudminnow	3	51-75*		W-06-079_140606_E1
W-06-079	Fathead Minnow	1	28		W-06-079_140606_E1
W-06-079	Finescale Dace	2	43, 66		W-06-079_140606_E1
W-06-079	Northern Redbelly Dace	4	32-45		W-06-079_140606_E1
W-06-083	Common Shiner	2	69, 87		W-06-083_200606_E1
W-06-083	Creek Chub	2	91, 99		W-06-083_200606_E1
W-06-083	Longnose Dace	6	34-73		W-06-083_200606_E1
W-06-083	Pearl Dace	1	45		W-06-083_200606_E1
W-06-083	Western Blacknose Dace	13	52-87		W-06-083_200606_E1
W-06-083	White Sucker	1	70	Immature	W-06-083_200606_E1
W-06-085	Brook Stickleback	5	37-60*		W-06-085_210606_E1
W-06-085	Creek Chub	3	75-108		W-06-085_210606_E1
W-06-085	Fathead Minnow	21	41-83		W-06-085_210606_E1
W-06-087	Blacknose Shiner	2	26, 30		W-06-087_220606_E1
W-06-087	Brook Stickleback	21	38-65*		W-06-087_220606_E1
W-06-087	Fathead Minnow	142	24-32		W-06-087_220606_E1
W-06-087	Iowa Darter	24	37-51*		W-06-087_220606_E1
W-06-087	White Sucker	3	69-71	Immature	W-06-087_220606_E1
W-06-088	Fathead Minnow	10			W-06-088_220606_E1
W-06-088	Northern Pike	1	210	Released, immature	W-06-088_220606_E1
W-06-089	Creek Chub	5	89-144	Post spawn male in sample	W-06-089_220606_E1
W-06-089	Finescale Dace	1	58		W-06-089_220606_E1
W-06-089	Pearl Dace	10	71-116	Some in spawning colours	W-06-089_220606_E1
W-06-089	Western Blacknose Dace	6	47-66		W-06-089_220606_E1
W-06-089	White Sucker	5	95-110	Immature	W-06-089_220606_E1
W-06-090	Brook Trout	1	60	Immature	W-06-090_220606_E1
W-06-090	Brown Trout	1	68	Immature	W-06-090_220606_E1
W-06-090	Longnose Dace	12	63-94		W-06-090_220606_E1
W-06-090	Pearl Dace	1	94		W-06-090_220606_E1
W-06-090	Rainbow Trout	1		Released, immature	W-06-090_220606_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-091	Brook Stickleback	46	28-43*		W-06-091_230606_E1
W-06-091	Creek Chub	2	94-98		W-06-091_230606_E1
W-06-091	Fathead Minnow	5	34-72		W-06-091_230606_E1
W-06-091	Finescale Dace	5	50-75		W-06-091_230606_E1
W-06-091	Iowa Darter	1	50*		W-06-091_230606_E1
W-06-091	Pearl Dace	10	60-112		W-06-091_230606_E1
W-06-091	Western Blacknose Dace	11	39-72		W-06-091_230606_E1
W-06-092	Brook Stickleback	10	39-78*		W-06-092_230606_E1
W-06-092	Fathead Minnow	2	42, 52		W-06-092_230606_E1
W-06-092	Finescale Dace	1	42		W-06-092_230606_E1
W-06-092	Johnny Darter	4	39-54*	One spawning male in sample	W-06-092_230606_E1
W-06-092	Pearl Dace	3	59-111		W-06-092_230606_E1
W-06-092	Western Blacknose Dace	10	40-85		W-06-092_230606_E1
W-06-093	Brook Stickleback	2	39, 42*		W-06-093_230606_E1
W-06-093	Fathead Minnow	2	32, 62		W-06-093_230606_E1
W-06-093	Finescale Dace	5	45-55		W-06-093_230606_E1
W-06-093	Longnose Dace	2	38-73		W-06-093_230606_E1
W-06-093	Western Blacknose Dace	4	60-82		W-06-093_230606_E1
W-06-094	No Catch				W-06-094_270606_E1
W-06-096	Central Mudminnow	3	64-88*		W-06-096_270606_E1
W-06-096	Northern Pike	2	97, 97		W-06-096_270606_E1
W-06-096	White Sucker	1	126		W-06-096_270606_E1
W-06-097	Brook Stickleback	35	29-56*		W-06-097_270606_E1
W-06-097	Central Mudminnow	30	33-82*		W-06-097_270606_E1
W-06-097	Iowa Darter	2	39, 51*		W-06-097_270606_E1
W-06-097	Northern Pike	2	78, 85	Immature	W-06-097_270606_E1
W-06-097	Northern Redbelly Dace	2	36, 47	Largest specimen agrees more closely with *P. erythrugaster* than *P. eos* in Becker (1983). Confirmed by D. Watkinson as *P. eos*, NOT *P. erythrugaster*	W-06-097_270606_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-097	Tadpole Madtom	1	86*	Mature female	W-06-097_270606_E1
W-06-097	White Sucker	6	65-87	Immature	W-06-097_270606_E1
W-06-098	Brook Stickleback	4	25-36*		W-06-098_280606_E1
W-06-098	Central Mudminnow	6	32-84*		W-06-098_280606_E1
W-06-098	Fathead Minnow	16	22-63		W-06-098_280606_E1
W-06-098	White Sucker	1	45	YOY	W-06-098_280606_E1
W-06-099	Common Carp	15		Stranded, dead on site, various sizes	W-06-099-280606_O1
W-06-100	Brook Stickleback	2	31-36*		W-06-100_280606_E1
W-06-100	Central Mudminnow	1	115*		W-06-100_280606_E1
W-06-100	Fathead Minnow	15	45-70		W-06-100_280606_E1
W-06-100	Johnny Darter	4	73-87*		W-06-100_280606_E1
W-06-100	Spottail Shiner	4	83-93		W-06-100_280606_E1
W-06-100	White Sucker	6	43-127	All immature	W-06-100_280606_E1
W-06-102	Brook Stickleback	7		Released	W-06-102_280606_D1
W-06-102	Central Mudminnow	6		Released	W-06-102_280606_D1
W-06-102	Fathead Minnow	5		Released	W-06-102_280606_D1
W-06-106	Brook Stickleback	1	42*		W-06-106_290606_E1
W-06-106	Central Mudminnow	3	84-102*		W-06-106_290606_E1
W-06-106	Fathead Minnow	10	46-64	Spawning males	W-06-106_290606_E1
W-06-106	Iowa Darter	6	41-47*		W-06-106_290606_E1
W-06-106	Northern Pike	1	93	Immature	W-06-106_290606_E1
W-06-110	Common Shiner	7	65-81		W-06-110_050706_E1
W-06-110	Creek Chub	3	67-88		W-06-110_050706_E1
W-06-110	Johnny Darter	7	42-57*		W-06-110_050706_E1
W-06-110	Longnose Dace	10	50-68	One very full of *Ligula* spp. (tapeworm)	W-06-110_050706_E1
W-06-110	Northern Pike	1	110		W-06-110_050706_E1
W-06-110	Western Blacknose Dace	2	52, 70		W-06-110_050706_E1
W-06-110	White Sucker	1	26*	YOY	W-06-110_050706_E1
W-06-112	Common Shiner	30	31-78		W-06-112_050706_E1
W-06-112	Creek Chub	8	44-115		W-06-112_050706_E1
W-06-112	Fathead Minnow	4	15-53	3 smallest are YOY	W-06-112_050706_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-112	Finescale Dace	11	38-53		W-06-112_050706_E1
W-06-112	Johnny Darter	15	29-44*		W-06-112_050706_E1
W-06-112	Northern Redbelly Dace	2	42, 43		W-06-112_050706_E1
W-06-112	Western Blacknose Dace	31	30-56		W-06-112_050706_E1
W-06-112	White Sucker	6	27*-116	Some YOY	W-06-112_050706_E1
W-06-113	Brook Stickleback	9	29-41*		W-06-113_060706_E1
W-06-113	Common Shiner	2	63, 90		W-06-113_060706_E1
W-06-113	Fathead Minnow	11	25-58		W-06-113_060706_E1
W-06-113	Finescale Dace	8	53-69		W-06-113_060706_E1
W-06-113	Johnny Darter	8	46-60*		W-06-113_060706_E1
W-06-113	Pearl Dace	9	71-106		W-06-113_060706_E1
W-06-113	Western Blacknose Dace	9	41-84		W-06-113_060706_E1
W-06-114	Brook Stickleback	5	32-35*		W-06-114_100706_E1
W-06-114	Creek Chub	48	26-122		W-06-114_100706_E1
W-06-114	Fathead Minnow	65	29-76		W-06-114_100706_E1
W-06-114	Johnny Darter	7	44-61*		W-06-114_100706_E1
W-06-114	Longnose Dace	4	57-72		W-06-114_100706_E1
W-06-114	Pearl Dace	16	32-63		W-06-114_100706_E1
W-06-114	Western Blacknose Dace	2	35, 49		W-06-114_100706_E1
W-06-114	White Sucker	17	25-55	All immature	W-06-114_100706_E1
W-06-116	Brassy Minnow	3	61-76		W-06-116_110706_D1
W-06-116	Common Shiner	12	53-67		W-06-116_110706_D1
W-06-116	Fathead Minnow	2	49, 51		W-06-116_110706_D1
W-06-116	Finescale Dace	3	41-47		W-06-116_110706_D1
W-06-116	Longnose Dace	9	37-58		W-06-116_110706_D1
W-06-116	Pearl Dace	3	51-59		W-06-116_110706_D1
W-06-116	Western Blacknose Dace	24	35-72		W-06-116_110706_D1
W-06-116	White Sucker	1	34*	Immature	W-06-116_110706_D1
W-06-119	Burbot	1	245*	Released	W-06-119_110706_E1
W-06-119	Common Shiner	4	44-89		W-06-119_110706_E1
W-06-119	Creek Chub	3	82-156		W-06-119_110706_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-119	Johnny Darter	1	45*		W-06-119_110706_E1
W-06-119	Longnose Dace	8	45-84		W-06-119_110706_E1
W-06-119	Western Blacknose Dace	3	43-50		W-06-119_110706_E1
W-06-119	White Sucker	11	51-72, 300	Released 1 mature White Sucker, kept 10 immature White Suckers	W-06-119_110706_E1
W-06-119	Yellow Perch	1	100	Released	W-06-119_110706_E1
W-06-121	Brook Stickleback	29	17-48*		W-06-121_120706_E1
W-06-121	Fathead Minnow	2	24-61		W-06-121_120706_E1
W-06-121	Finescale Dace	1	45		W-06-121_120706_E1
W-06-121	Johnny Darter	3	21-53*		W-06-121_120706_E1
W-06-121	Longnose Dace	2	55-79		W-06-121_120706_E1
W-06-121	White Sucker	1	43	Immature	W-06-121_120706_E1
W-06-124	Blacknose Shiner	1	51		W-06-124_180706_E1
W-06-124	Brook Stickleback	4	33-34*		W-06-124_180706_E1
W-06-124	Central Mudminnow	1	73*		W-06-124_180706_E1
W-06-124	Fathead Minnow	1	23		W-06-124_180706_E1
W-06-124	Finescale Dace	3	33-35		W-06-124_180706_E1
W-06-124	White Sucker	3	29-31*	YOY	W-06-124_180706_E1
W-06-126	Burbot	2	166*	Released 1 Burbot	W-06-126_180706_E1
W-06-126	Smallmouth Bass	1		Released 1 Smallmouth Bass, immature	W-06-126_180706_E1
W-06-126	Longnose Dace	1	89		W-06-126_180706_E1
W-06-126	Mottled Sculpin	2	86*	Released 1 Mottled Sculpin	W-06-126_180706_E1
W-06-126	Northern Pike	2	104	Released 1 immature Northern Pike	W-06-126_180706_E1
W-06-126	Yellow Perch	1	85		W-06-126_180706_E1
W-06-133	Tadpole Madtom	1	58*		W-06-133_190706_E1
W-06-133	White Sucker	1	93		W-06-133_190706_E1
W-06-134	Johnny Darter	1	38*		W-06-134_200706_E1
W-06-134	Silver Redhorse	4	67-141		W-06-134_200706_E1
W-06-134	White Sucker	4	39-41	Immature	W-06-134_200706_E1
W-06-138	Black Bullhead	2	38, 106*		W-06-138_010806_E1
W-06-138	Fathead Minnow	266	25-61		W-06-138_010806_E1

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W-06-138	Johnny Darter	5	34-40*		W-06-138_010806_E1
W-06-138	Longnose Dace	24	88-101		W-06-138_010806_E1
W-06-138	Sand Shiner	17	49-59		W-06-138_010806_E1
W-06-138	White Sucker	2	54, 116		W-06-138_010806_E1
W-06-139	Black Bullhead	8	37-41*	All YOY	W-06-139_010806_E1
W-06-139	Blackside Darter	1	81*		W-06-139_010806_E1
W-06-139	Fathead Minnow	30	23-37		W-06-139_010806_E1
W-06-139	Johnny Darter	1	39*		W-06-139_010806_E1
W-06-139	Longnose Dace	2	37-62		W-06-139_010806_E1
W-06-139	Northern Pike	2	310-315	Released 2 mature Northern Pike	W-06-139_010806_E1
W-06-139	Sand Shiner	3	23-34		W-06-139_010806_E1
W-06-139	Tadpole Madtom	1	68*		W-06-139_010806_E1
W-06-139	White Sucker	1	54		W-06-139_010806_E1
W-06-140	Black Bullhead	6	93-112*		W-06-140_010806_E1
W-06-140	Blackside Darter	12	52-75*		W-06-140_010806_E1
W-06-140	Common Shiner	6	93-111		W-06-140_010806_E1
W-06-140	Fathead Minnow	1	57		W-06-140_010806_E1
W-06-140	Longnose Dace	16	42-87		W-06-140_010806_E1
W-06-140	Sand Shiner	52	58-69		W-06-140_010806_E1
W-06-140	Shorthead Redhorse	1	140		W-06-140_010806_E1
W-06-140	Stonecat	1	127*		W-06-140_010806_E1
W-06-140	Troutperch	4	48-75		W-06-140_010806_E1
W-06-140	White Sucker	2	61, 73		W-06-140_010806_E1
W-06-141	Blackside Darter	16	41-55*		W-06-141_010806_E1
W-06-141	Burbot	1	139*		W-06-141_010806_E1
W-06-141	Common Shiner	2	90, 117		W-06-141_010806_E1
W-06-141	Creek Chub	1	121		W-06-141_010806_E1
W-06-141	Fathead Minnow	3	50-58		W-06-141_010806_E1
W-06-141	Johnny Darter	4	35-49*		W-06-141_010806_E1
W-06-141	Longnose Dace	56	27-76		W-06-141_010806_E1
W-06-141	Northern Pike	1	350	Released, mature	W-06-141_010806_E1

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Site Number	Common Name	#	Fork/Total* Length (mm)	Comments	Fish Capture ID Number
W-06-141	Rock Bass	1		Observed, unable to collect	W-06-141_010806_E1
W-06-141	Sand Shiner	1	61		W-06-141_010806_E1
W-06-141	Shorthead Redhorse	5	220-290		W-06-141_010806_E1
W-06-141	Walleye	2	87, 125		W-06-141_010806_E1
W-06-141	White Sucker	2	50-130		W-06-141_010806_E1
W-06-143	Blackside Darter	3	61-70*		W-06-143_020806_E1
W-06-143	Common Carp	6	66-90		W-06-143_020806_E1
W-06-143	Creek Chub	8	66-106		W-06-143_020806_E1
W-06-143	Fathead Minnow	7	20-44	Smallest 5 are YOY	W-06-143_020806_E1
W-06-143	Freshwater Drum	1	400	Released mature Freshwater Drum	W-06-143_020806_E1
W-06-143	Johnny Darter	24	28-63*		W-06-143_020806_E1
W-06-143	Sand Shiner	3	31-54		W-06-143_020806_E1
W-06-143	Tadpole Madtom	2	78, 79*		W-06-143_020806_E1
W-06-144	No Catch				W-06-144_080806_E1
W-06-146	No Catch				W-06-146_090806_E1

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-02-001	16-Apr-02	4.6	1.6	10.40	100	425		7.40
D-02-002	17-Apr-02	4	1.1			265		7.41
D-02-003	19-Apr-02	-1	0.9	11.50	99	415		8.54
D-02-004	22-Apr-02		5.0	11.10	98.8			
D-02-005	2-May-02		6.5	10.69	98.6	510		8.41
D-02-006	6-May-02							
D-02-007	6-May-02							
D-02-008	7-May-02	5	6.2	9.98	90.8	661		8.78
D-02-009	7-May-02	13	9.5	10.78	107.5	597		8.68
D-02-010	9-May-02	2						
D-02-011	9-May-02	2						
D-02-012	9-May-02	2						
D-02-013	10-May-02		14.4	8.96	101	449		8.66
D-02-014	11-May-02	14	8.9	7.84	78.4	866		7.32
D-02-015	11-May-02	20.5	12.0	8.94	96	502		7.33
D-02-016	11-May-02	20						
D-02-017	11-May-02							
D-02-018	12-May-02	17	11.8	9.71	103.6	558		7.32
D-02-019	12-May-02							
D-02-020	12-May-02							
D-02-021	12-May-02							
D-02-022	12-May-02							
D-02-023	12-May-02							
D-02-024	12-May-02							
D-02-025	13-May-02							
D-02-026	13-May-02		11.0	8.81	93.2	408		8.68
D-02-027	13-May-02		12.9	9.91	99	386		7.33
D-02-028	13-May-02		11.3	6.50	69	385		8.58
D-02-029	14-May-02							
D-02-030	14-May-02							
D-02-031	15-May-02		11.7	5.37	56.1	605		8.28
D-02-032	15-May-02							
D-02-033	15-May-02		13.5	6.74	74.6	540		8.66

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-02-034	16-May-02							
D-02-035	16-May-02							
D-02-036	16-May-02	11.5	7.0	6.87	64	567		8.76
D-02-037	16-May-02							
D-02-038	16-May-02							
D-02-039	16-May-02							
D-02-040	16-May-02							
D-02-041	16-May-02		14.4					
D-02-042	17-May-02		5.4					
D-02-043	21-May-02	25.5	13.3	11.34	123.2	545		8.17
D-02-044	21-May-02	26	16.1	12.17	140.4	497		8.43
D-02-045	22-May-02	6	10.0	13.51	135.9	486		8.20
D-02-046	22-May-02		12.0					
D-02-047	23-May-02							
D-02-048	23-May-02							
D-02-049	23-May-02							
D-02-050	23-May-02							
D-02-051	24-May-02		5.2	11.23	100.7	642		7.78
D-02-052	24-May-02							
D-02-053	24-May-02							
D-02-054	24-May-02							
D-02-055	24-May-02							
D-02-056	24-May-02		10.4	10.39	110.2	518		7.98
D-02-057	24-May-02							
D-02-058	24-May-02							
D-02-059	27-May-02		16.1	5.32	62.7	932		7.78
D-02-060	27-May-02	27	11.7	5.53	57.6	453		8.50
D-02-061	28-May-02	28.5	17.5	8.17	100	583		7.32
D-02-062	28-May-02							
D-02-063	28-May-02							
D-02-064	29-May-02							
D-02-065	29-May-02		17.2	4.88	54.6	536		7.97
D-02-066	29-May-02		17.0					

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-02-067	29-May-02	22	21.5	7.30	90	598		8.69
D-02-068	29-May-02	25	18.5	6.35	75.7	575		7.32
D-02-069	29-May-02	26	21.1	6.83	76.1	496		8.60
D-02-070	30-May-02							
D-02-071	30-May-02	29	19.3	7.35	90.4	519		7.11
D-02-072	3-Jun-02		18.0					
D-02-073	3-Jun-02		18.0					
D-02-074	3-Jun-02	24	19.5	8.03	99	652		7.11
D-02-075	4-Jun-02		17.9	6.55	77.6	520		7.29
D-02-076	5-Jun-02							
D-02-077	5-Jun-02	26	20.6	8.23	102.6	498		7.42
D-02-078	5-Jun-02	26.5	23.5	7.74	102.9	495		7.39
D-02-079	5-Jun-02							
D-02-080	5-Jun-02							
D-02-081	6-Jun-02	15	17.6	6.70	78.1	565		7.11
D-02-082	6-Jun-02							
D-02-083	6-Jun-02	16.5	16.3	6.26	71.7	580		7.23
D-02-084	12-Jun-02	17.5	18.3	10.36	121.4	563		7.11
D-02-085	12-Jun-02			6.20				
D-02-086	12-Jun-02							
D-02-087	12-Jun-02	17.5	20.3	8.30	100.8	611		7.12
D-02-088	13-Jun-02	16	15.3	4.71	52.6	960		7.22
D-02-089	13-Jun-02	16	18.5	7.15	87.4	1015		7.26
D-02-090	13-Jun-02							
D-02-091	13-Jun-02	16						
D-02-092	13-Jun-02	17.5	21.5	6.66	85.5	549		7.82
D-02-093	14-Jun-02	16.5	18.1	5.60	67.9	604		6.80
D-02-094	18-Jun-02	20	20.8	3.20	40.5	573		6.59
D-02-095	18-Jun-02	20	23.1	9.45	126.5	1382		8.40
D-02-096	19-Jun-02	22	19.1	5.86	72.7	961		7.83
D-02-097	19-Jun-02	25	20.7	5.80	74.5	517		7.35
D-02-098	19-Jun-02							
D-02-099	19-Jun-02							

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-02-100	20-Jun-02		15.6	6.43	74	444		7.19
D-02-101	20-Jun-02	18	14.9	7.83	89.3	342		7.28
D-02-102	20-Jun-02	21	15.7	7.06	81.8	284		7.28
D-02-103	20-Jun-02							
D-02-104	20-Jun-02	25	20.1	7.10	90.6	234		7.51
D-02-105	21-Jun-02	22						
D-02-106	21-Jun-02	25						
D-02-107	21-Jun-02	26	17.3	7.28	88.1	460		7.72
D-02-108	21-Jun-02		22.2	3.60	47.3	1379		7.11
D-02-109	26-Jun-02							
D-02-110	26-Jun-02							
D-02-111	26-Jun-02	28	25.4	8.41	118.2	803		7.18
D-02-112	3-Jul-02							
D-02-113	3-Jul-02							
D-02-114	3-Jul-02							
D-02-115	3-Jul-02		20.8	1.00	13	852		
D-02-116	3-Jul-02		20.5	6.19	81.8	572		6.85
D-02-117	3-Jul-02							
D-02-118	3-Jul-02		19.4	5.85	68	658		
D-02-119	4-Jul-02		16.1	7.27	84.6	635		7.73
D-02-120	4-Jul-02							
D-02-121	4-Jul-02		16.1	8.75	91.9	592		8.12
D-02-122	4-Jul-02		16.9	8.14	96.4	710		8.26
D-02-123	4-Jul-02							
D-02-124	4-Jul-02		17.3	7.88	94.1	636		7.76
D-02-125	9-Jul-02		20.6	10.24	131.5	467		7.13
D-02-126	9-Jul-02		22.7	10.23	136.3	476		7.58
D-02-127	9-Jul-02		21.2	9.46	123.8	478		7.96
D-02-128	9-Jul-02							
D-02-129	9-Jul-02							
D-02-130	9-Jul-02		21.3	5.94	77.2	716		7.69
D-02-131	9-Jul-02		21.0	6.55	84.7	501		7.96
D-02-132	10-Jul-02		18.0	6.95	84.8	414		8.01

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-02-133	10-Jul-02							
D-02-134	10-Jul-02							
D-02-135	10-Jul-02		17.9	8.43	102	514		6.95
D-02-136	10-Jul-02							
D-02-137	12-Jul-02		21.5	6.23	81	476		7.96
D-02-138	12-Jul-02	27.5	25.3	10.86	148	836		7.60
D-02-139	12-Jul-02		21.8	7.14	94.2	433		6.95
D-02-140	12-Jul-02							
D-02-141	12-Jul-02							
D-02-142	17-Jul-02	25	22.3	6.46	85.4	423		7.23
D-02-143	17-Jul-02							
D-02-144	17-Jul-02							
D-02-145	17-Jul-02							
D-02-146	17-Jul-02							
D-02-147	17-Jul-02		23.4	8.44	114.1	606		7.36
D-02-148	17-Jul-02							
D-02-149	17-Jul-02		26.9	6.59	94.4	405		7.79
D-02-150	18-Jul-02							
D-02-151	18-Jul-02							
D-02-152	18-Jul-02							
D-02-153	18-Jul-02							
D-02-154	18-Jul-02							
D-02-155	18-Jul-02							
D-02-156	18-Jul-02							
D-02-157	18-Jul-02							
D-02-158	18-Jul-02							
D-02-159	18-Jul-02							
D-02-160	23-Jul-02	15	20.9	7.05	90.6	441		7.06
D-02-161	23-Jul-02	15	21.0	8.42	108.7	447		7.14
D-02-162	23-Jul-02							
D-02-163	24-Jul-02							
D-02-164	24-Jul-02		16.5	7.16	84.2	617		7.71
D-02-165	24-Jul-02							

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-02-166	24-Jul-02							
D-02-167	24-Jul-02		17.4	8.19	98.6	768		7.79
D-02-168	24-Jul-02							
D-02-169	24-Jul-02							
D-02-170	24-Jul-02	25	21.6	7.83	102.4	603		8.08
D-02-171	25-Jul-02		15.9	7.08	82.4	461		7.82
D-02-172	25-Jul-02	21						
D-02-173	25-Jul-02	25	18.8	7.51	93	483		7.79
D-02-174	25-Jul-02							
D-02-175	25-Jul-02							
D-02-176	25-Jul-02							
D-02-177	25-Jul-02							
D-02-178	25-Jul-02		24.7	8.95	124.5	493		6.95
D-02-179	30-Jul-02	25	21.4	8.20	107.3	431		7.33
D-02-180	30-Jul-02	23	21.6	8.95	116	781		7.47
D-02-181	31-Jul-02		18.1	8.82	107.3	464		7.36
D-02-182	31-Jul-02	25	17.8	4.82	59.7	395		8.68
D-02-183	31-Jul-02		20.5	7.96	102	372		8.28
D-02-184	31-Jul-02		21.7	8.15	106.7	379		8.24
D-02-185	1-Aug-02		15.4	0.00	0	754		7.20
D-02-186	1-Aug-02							
D-02-187	1-Aug-02							
D-02-188	1-Aug-02		19.1	12.54		227		8.63
D-02-189	1-Aug-02							
D-02-190	1-Aug-02		19.5	7.61	94.7	253		7.76
D-02-191	15-Aug-02	20	17.8	8.33	101.4	593		8.93
D-02-192	16-Aug-02	25	21.5	7.66	83.9	640		8.21
D-02-193	20-Aug-02	24	21.2	12.42		1225		8.94
D-02-194	20-Aug-02							
D-02-195	21-Aug-02	23	17.6	8.67	104.5	269		7.88
D-02-196	21-Aug-02	23	18.8	8.55	105.9	143		7.52
D-02-197	22-Aug-02	25	14.4	7.16	83.9	392		8.16
D-02-198	22-Aug-02	26	21.9	10.41	139	481		8.58

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-02-199	27-Aug-02	20.5	14.4	9.55	107.4	626		8.14
D-02-200	27-Aug-02	21	16.2	8.64	102	520		8.02
D-02-201	8-Oct-02	5						
B-03-001	21-May-03	19	8.2	10.48	96.6	174	24.98	7.94
B-03-002	23-May-03	17						
B-03-003	23-May-03	17.5	13.2	6.88	70.8	950	1.11	8.25
B-03-004	23-May-03	17	13.4	7.36	82	700	0.00	8.05
B-03-005	23-May-03	17	16.0	9.84	116	679	2.54	8.43
B-03-006	23-May-03	17						
B-03-007	26-May-03	21	16.2	9.28	113.8	749	2.87	7.90
B-03-008	26-May-03	21						
B-03-009	26-May-03	26	19.4	8.01	104.4	1321	0.5	7.97
B-03-010	26-May-03	29						
B-03-011	26-May-03	29						
B-03-012	26-May-03	27	25.2			358	1.72	8.70
B-03-013	27-May-03	19	17.5	4.62	57.6	903	1.89	8.23
B-03-014	27-May-03	21						
B-03-015	27-May-03	22	18.3	3.75	48.9	1054	0.15	7.78
B-03-016	27-May-03	27.5	19.9	10.94		1010	1.02	8.56
B-03-017	28-May-03	25.5	18.5	8.83	104.7	1085	10.72	8.64
B-03-018	28-May-03	28						
B-03-019	28-May-03	26	24.0	13.40		1185	4.46	8.73
B-03-020	29-May-03	22.5	16.9	1.80	27.8	755	0.00	7.63
B-03-021	29-May-03	22						
B-03-022	29-May-03	22						
B-03-023	29-May-03	22						
B-03-024	29-May-03	22						
B-03-025	29-May-03	25						
B-03-026	29-May-03	21	19.0	6.80	89.7	751	2.94	8.04
B-03-027	30-May-03	10						
B-03-028	30-May-03	10	12.6	6.95	77.8	700	0.46	8.05
B-03-029	30-May-03	12						
B-03-030	30-May-03	14	17.6	10.89	137.5	1296	13.01	8.92

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (^{o}C)	Water Temp. (^{o}C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-03-031	30-May-03	15	19.4	11.70	152.8	1724	43.05	8.56
B-03-032	2-Jun-03	20						
B-03-033	2-Jun-03	16	15.8	6.94	82.6	1195	2.19	8.27
B-03-034	2-Jun-03	17						
B-03-035	2-Jun-03	22	18.7	11.54	144	1688	4.69	8.28
B-03-036	2-Jun-03	21						
B-03-037	2-Jun-03	20						
B-03-038	2-Jun-03	20						
B-03-039	3-Jun-03	14						
B-03-040	3-Jun-03	14	13.0	8.70	100	900	0.00	8.20
B-03-041	3-Jun-03	15	13.7	7.30	87.9	624	7.87	8.10
B-03-042	3-Jun-03	18						
B-03-043	3-Jun-03	17						
B-03-044	3-Jun-03							
B-03-045	4-Jun-03	17						
B-03-046	4-Jun-03	17						
B-03-047	4-Jun-03	14						
B-03-048	4-Jun-03	18	16.9	7.40	90	1475	0.74	8.25
B-03-049	4-Jun-03	17						
B-03-050	4-Jun-03	17	18.2	6.25	77.7	1591	2.26	7.91
B-03-051	4-Jun-03	20						
B-03-052	4-Jun-03	20	20.1	6.04	79.6	1057	1.76	8.20
B-03-053	5-Jun-03	16	18.0	10.73	137.6	1508	3.12	6.85
B-03-054	5-Jun-03	18						
B-03-055	5-Jun-03	18	15.7	8.39	105	1378	6.84	6.85
B-03-056	5-Jun-03	19						
B-03-057	5-Jun-03	17						
B-03-058	5-Jun-03	19						
B-03-059	5-Jun-03	19						
B-03-060	5-Jun-03	19	18.8	8.08	101	588	1.73	6.86
B-03-061	9-Jun-03	10	15.1	5.95	73.9	963	0.27	8.06
B-03-062	9-Jun-03	12	14.9	8.53	101.6	>2000	2.39	8.49
B-03-063	9-Jun-03	12						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-03-064	10-Jun-03	21.5	13.7	10.39	116.4	651	2.01	8.49
B-03-065	10-Jun-03	20	15.4	9.58	118.5	949	5.11	6.86
B-03-066	10-Jun-03	23						
B-03-067	10-Jun-03	23	18.4	10.77	141.5	850	6.2	6.86
B-03-068	11-Jun-03	17						
B-03-069	11-Jun-03	18						
B-03-070	11-Jun-03	21	14.4	7.85	96.2	372	6.31	8.20
B-03-071	11-Jun-03	14	16.0	8.94	113.4	350	7.32	6.85
B-03-072	11-Jun-03	16						
B-03-073	11-Jun-03	15						
B-03-074	11-Jun-03	15						
B-03-075	12-Jun-03	10	13.4	2.71	32.7	844	2.2	7.35
B-03-076	12-Jun-03	23	15.2	6.23	73	523	11.77	6.85
B-03-077	12-Jun-03	15	8.9	12.48		490	10.96	6.86
B-03-078	12-Jun-03	17						
B-03-079	12-Jun-03	18						
B-03-080	12-Jun-03	18						
B-03-081	12-Jun-03	18						
B-03-082	12-Jun-03	18	18.9	7.76	98.3	1265	2.3	6.86
B-03-083	16-Jun-03	24	25.7	7.75	105.9	972	8.07	
B-03-084	16-Jun-03	24	27.3	8.03	113.8	837	4.24	8.05
B-03-085	17-Jun-03	21	23.5	6.28	82.2	520	12.94	7.66
B-03-086	17-Jun-03	25	25.9	6.37	87.3	751	16.89	7.92
B-03-087	17-Jun-03	20	26.7	8.80	122	785	7.23	6.86
B-03-088	18-Jun-03	21	22.5	7.63	98	606	1.2	7.68
B-03-089	18-Jun-03	24	23.1	8.64	112	599	3.48	7.90
B-03-090	18-Jun-03	24						
B-03-091	18-Jun-03	23	23.5	1.45	19	283	177	6.86
B-03-092	18-Jun-03	24						
B-03-093	18-Jun-03	21	25.9	8.73	119.7	887	11.19	6.86
B-03-094	18-Jun-03	19	26.6	11.59	160.3	833	0.79	6.86
B-03-095	19-Jun-03	17	20.0	5.84	71.2	705	0.00	7.73
B-03-096	19-Jun-03	21						

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-03-097	19-Jun-03	23	21.5	7.41	94.6	925	14.48	8.03
B-03-098	19-Jun-03	23	23.5	5.99	82	1407	13.7	8.09
B-03-099	20-Jun-03	22	17.9	6.66	83	1099	1.27	7.80
B-03-100	20-Jun-03							
B-03-101	20-Jun-03	24	24.9	9.89	143	714	3.77	8.65
B-03-102	23-Jun-03	21	18.0	8.59	100.7	295	2.26	8.05
B-03-103	23-Jun-03	21	24.9	9.67	147.9	341	2.25	7.59
B-03-104	23-Jun-03	23	20.2	6.87	95.5	393	3.04	7.90
B-03-105	24-Jun-03	13						
B-03-106	24-Jun-03	14						
B-03-107	24-Jun-03	15						
B-03-108	24-Jun-03	15						
B-03-109	24-Jun-03	17						
B-03-110	26-Jun-03	17						
B-03-111	26-Jun-03	17						
B-03-112	26-Jun-03	17	16.0	9.94	115.7	324	6.03	8.31
B-03-113	26-Jun-03	18						
B-03-114	26-Jun-03	18						
B-03-115	27-Jun-03	14.5	14.0	8.37	93.7	347	9.07	8.07
B-03-116	27-Jun-03	17	15.5	9.62	108.7	273	6.68	6.86
B-03-117	27-Jun-03	18	14.7	7.13	80.1	323	1.68	7.85
B-03-118	27-Jun-03	18	21.1	7.06	91.2	284	2.67	7.70
B-03-119	2-Jul-03	22	22.6	4.62	61.4	321	4.01	7.56
B-03-120	2-Jul-03	24	23.4	6.99	93.8	352	5.35	7.98
B-03-121	3-Jul-03	18	19.9	3.53	45	259	6.63	7.36
B-03-122	3-Jul-03	20	20.5	8.25	104.5	323	2.7	8.05
B-03-123	3-Jul-03	24						
B-03-124	3-Jul-03	24	24.8	10.49	148.1	326	13.29	8.34
B-03-125	3-Jul-03	26						
B-03-126	4-Jul-03	18	21.9	9.84	133.4	528	2.52	
B-03-127	4-Jul-03	23						
B-03-128	4-Jul-03	23						
B-03-129	4-Jul-03	23						

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
B-03-130	4-Jul-03	24						
B-03-131	4-Jul-03	24						
B-03-132	7-Jul-03	14	15.3	9.73	116.7	424	2.89	8.38
B-03-133	7-Jul-03	14						
B-03-134	7-Jul-03	15	13.9	5.17	63.3	415	3.99	7.53
B-03-135	7-Jul-03	16						
B-03-136	7-Jul-03	13	18.2	3.18	43.3	501	11.9	7.76
B-03-137	7-Jul-03	13						
B-03-138	7-Jul-03	18						
B-03-139	7-Jul-03	18						
B-03-140	8-Jul-03	14						
B-03-141	8-Jul-03	16	17.3	9.91	121.3	1045	6.4	8.08
B-03-142	8-Jul-03	16	17.2	8.50	104	1125	5.22	7.74
B-03-143	8-Jul-03	16	20.4	7.01	90.3	746	6.52	8.05
B-03-144	9-Jul-03	14						
B-03-145	9-Jul-03	14	18.6	8.58	108.7	720	2.57	8.69
B-03-146	9-Jul-03	14						
B-03-147	9-Jul-03	14						
B-03-148	9-Jul-03	14	20.8	12.69		985	48.14	8.31
B-03-149	9-Jul-03	17						
B-03-150	9-Jul-03	15	22.4	13.27		1194	22.65	
B-03-151	10-Jul-03	15	18.5	8.29	105.5	643	6.13	8.29
B-03-152	10-Jul-03	18	21.5	8.69	121.8	711	20.33	8.16
B-03-153	10-Jul-03	21						
B-03-154	10-Jul-03	21						
B-03-155	11-Jul-03	19						
B-03-156	11-Jul-03	19						
B-03-157	11-Jul-03	19						
B-03-158	11-Jul-03	20.5	18.8	7.45	98.3	597	7.32	8.23
B-03-159	11-Jul-03	24	18.5	12.35	162.5	645	6.02	8.16
B-03-160	11-Jul-03	24	23.6	9.42	139.5	927	13.00	8.15
B-03-161	14-Jul-03	18						
B-03-162	14-Jul-03	19						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (^{o}C)	Water Temp. (^{o}C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-03-163	14-Jul-03	23	23.3	3.97	52.3	361	55	8.01
B-03-164	14-Jul-03	23						
B-03-165	14-Jul-03	23						
B-03-166	14-Jul-03	17						
B-03-167	14-Jul-03	19						
B-03-168	14-Jul-03	19						
B-03-169	14-Jul-03	19						
B-03-170	14-Jul-03	19						
B-03-171	14-Jul-03	19						
B-03-172	14-Jul-03	20						
B-03-173	14-Jul-03	20						
B-03-174	14-Jul-03	20						
B-03-175	14-Jul-03	20						
B-03-176	14-Jul-03	20						
B-03-177	14-Jul-03	21						
B-03-178	14-Jul-03	21						
B-03-179	14-Jul-03	21						
B-03-180	14-Jul-03	21						
B-03-181	15-Jul-03	22	19.0	6.15	75.3	349	49.54	8.07
B-03-182	16-Jul-03	20	21.2	4.84	60.4	335	5.4	7.69
B-03-183	16-Jul-03	22	20.9	5.36	65.1	311	27.33	8.14
B-03-184	16-Jul-03	23	21.8	3.74	47.4	350	3.24	7.66
B-03-185	16-Jul-03	23	24.4	6.74	90.3	262	9.08	7.95
B-03-186	16-Jul-03	25						
B-03-187	16-Jul-03	25						
B-03-188	16-Jul-03	25						
B-03-189	16-Jul-03	23	24.6	6.60	85	296	18.29	7.51
B-03-190	16-Jul-03	24	26.0	7.85	105.1	255	7.82	8.25
B-03-191	17-Jul-03	15	18.9	5.92	72	298	3.7	7.65
B-03-192	17-Jul-03	18	18.9	8.67	106	253	2.00	7.59
B-03-193	17-Jul-03	23	21.0	8.23	104.8	250	2.54	7.78
B-03-194	22-Jul-03	29	26.8	11.69	165.5	529	6.84	9.05
B-03-195	23-Jul-03	17						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-03-196	23-Jul-03	17						
B-03-197	23-Jul-03	19						
B-03-198	23-Jul-03	18						
B-03-199	23-Jul-03	20	16.3	7.14	81	356	22.91	7.91
B-03-200	23-Jul-03	23	23.1	10.51	136	482	73	8.35
B-03-201	23-Jul-03	27						
B-03-202	23-Jul-03	25	20.8	4.70	59.5	332	3.56	7.52
B-03-203	23-Jul-03	27						
B-03-204	23-Jul-03	27	23.3	4.89	65.9	375	1.11	7.48
B-03-205	23-Jul-03	25						
B-03-206	24-Jul-03	18	19.5	4.32	53.4	290	5.00	7.97
B-03-207	24-Jul-03	18	20.7	7.77	98.4	288	10.20	8.23
B-03-208	24-Jul-03	23						
B-03-209	24-Jul-03	27	23.9	8.28	110.9	294	15.23	6.89
B-03-210	24-Jul-03	27						
B-03-211	24-Jul-03	27						
B-03-212	24-Jul-03	30	27.5	12.05		271	1.92	8.19
B-03-213	24-Jul-03	31						
B-03-214	25-Jul-03	21						
B-03-215	25-Jul-03	21						
B-03-216	25-Jul-03	21						
B-03-217	25-Jul-03	23						
B-03-218	25-Jul-03	23						
B-03-219	25-Jul-03	21						
B-03-220	25-Jul-03	23						
B-03-221	25-Jul-03	25						
B-03-222	25-Jul-03	25						
B-03-223	5-Aug-03	23						
B-03-224	5-Aug-03	25	23.4	7.69	103.5	580	18.56	8.15
B-03-225	5-Aug-03	24						
B-03-226	6-Aug-03	15	18.8	1.99	22.7	244	4.16	7.94
B-03-227	6-Aug-03	23.5						
B-03-228	6-Aug-03	23.5						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (^{o}C)	Water Temp. (^{o}C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
B-03-229	6-Aug-03	23.5						
B-03-230	6-Aug-03	23.5						
B-03-231	6-Aug-03	24						
B-03-232	6-Aug-03	24						
B-03-233	6-Aug-03	24						
B-03-234	6-Aug-03	25						
B-03-235	6-Aug-03	25	27.3	11.39	159.6	446	4.9	8.29
B-03-236	6-Aug-03	24						
B-03-237	7-Aug-03	21						
B-03-238	7-Aug-03	21						
B-03-239	7-Aug-03	26	21.3	6.32	78.8	528	21.32	
B-03-240	7-Aug-03	25						
B-03-241	7-Aug-03	25				689	26.59	8.44
B-03-242	7-Aug-03	26						
B-03-243	7-Aug-03	27						
B-03-244	7-Aug-03	29						
B-03-245	7-Aug-03	28						
B-03-246	8-Aug-03	18						
B-03-247	8-Aug-03	18						
B-03-248	8-Aug-03	18						
B-03-249	8-Aug-03	23	22.7			442	1.74	7.86
B-03-250	8-Aug-03	27						
B-03-273	5-Aug-04	17						
D-03-001	8-May-03		15.3	8.74	98	487	1.42	7 - 7.5*
D-03-002	10-May-03	0	6.5	9.44	92.5	303	1.15	8.19
D-03-003	10-May-03	4.5	8.5	9.82	96.4	424	6.4	8.47
D-03-004	11-May-03	11	6.5	9.97	92	425	6.15	8.16
D-03-005	11-May-03	14.5	10.6	10.40	107.6	949	3.2	8.34
D-03-006	12-May-03	17	13.8	11.92	129	588	6.26	7 - 7.5*
D-03-007	12-May-03							
D-03-008	13-May-03	10						
D-03-009	13-May-03	18	11.1	7.06	72.1	516	1.06	7 - 7.5*
D-03-010	13-May-03							

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-03-011	13-May-03	24	15.5	13.32		442	2.48	7 - 7.5*
D-03-012	13-May-03	25	17.7	12.24		435	5.35	8.65
D-03-013	13-May-03	25						
D-03-014	13-May-03	20						
D-03-015	14-May-03	14	9.0	10.17	99.9	416	26.10	7 - 7.5*
D-03-016	14-May-03	25	12.7	9.45	101.2	381	4.57	7 - 7.5*
D-03-017	14-May-03	25	14.0	9.27	105.6	555	1.42	7 - 7.5*
D-03-018	14-May-03	25						
D-03-019	14-May-03	26	17.2	9.76	117.3	239	5.11	7 - 7.5*
D-03-020	14-May-03	25						
D-03-021	3-Jun-03	18						
D-03-022	3-Jun-03	19						
D-03-023	3-Jun-03	20	18.1	8.65	103.5		20.35	8.05
D-03-024	3-Jun-03	21	18.5	7.73	93.1		10.57	8.15
D-03-025	3-Jun-03	22	19.3	9.19	110.7		4.86	8.14
D-03-026	3-Jun-03	20	17.5	7.73	92.4		13.38	8.24
D-03-027	4-Jun-03		15.5	8.20	92.3		3.47	6.90
D-03-028	4-Jun-03	18						
D-03-029	4-Jun-03	19	15.5	8.98	106.3		11.32	8.25
D-03-030	4-Jun-03							
D-03-031	4-Jun-03	19						
D-03-032	4-Jun-03	18						
D-03-033	4-Jun-03							
D-03-034	4-Jun-03							
D-03-035	5-Jun-03		16.8	6.16	73		3.91	8.13
D-03-036	5-Jun-03	19	20.0	7.02	89.7		17.69	8.39
D-03-037	5-Jun-03	20	20.1	11.47	140		3.8	8.64
D-03-038	6-Jun-03		16.2	7.35	91.4	895	9.32	6.90
D-03-039	10-Jun-03	15						
D-03-040	10-Jun-03		18.0	8.74	110.9	1601	2.73	7.21
D-03-041	10-Jun-03	18	16.6	7.94	98	1887	2.62	7.37
D-03-042	10-Jun-03							
D-03-043	10-Jun-03	21						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-03-044	11-Jun-03	16	14.3	6.98	86.8	871	244	7.48
D-03-045	11-Jun-03	17	17.0	6.17	73	1711	5.15	7.39
D-03-046	11-Jun-03							
D-03-047	11-Jun-03	17	17.8	6.23	75	1790	3.43	7.27
D-03-048	11-Jun-03							
D-03-049	11-Jun-03		20.0	9.15	115.7	1810	2.88	7.81
D-03-050	13-Jun-03							
D-03-051	13-Jun-03							
D-03-052	13-Jun-03							
D-03-053	13-Jun-03							
D-03-054	13-Jun-03	20	18.8	12.08	159.4	1006	1.1	8.64
D-03-055	13-Jun-03	23						
D-03-056	13-Jun-03	23						
D-03-057	13-Jun-03	24	18.6	7.51	94.3	823	5.54	6.91
D-03-058	16-Jun-03		22.3	7.48	97.2	589	3.89	7.70
D-03-059	16-Jun-03	18	23.8	8.33	113	487	4.12	8.04
D-03-060	16-Jun-03	27	24.4	6.90	95	507	3.57	7.67
D-03-061	17-Jun-03	20	19.9	6.64	87.7	423	2.35	7.52
D-03-062	17-Jun-03	22	18.6	6.80	88.8	321	5.82	7.74
D-03-063	17-Jun-03	21						
D-03-064	17-Jun-03	22	20.6	5.84	79.4	490	9.12	6.91
D-03-065	17-Jun-03		22.2	7.17	101.4	354	11.15	8.05
D-03-066	18-Jun-03		15.4	7.28	89.5	304	3.3	6.92
D-03-067	18-Jun-03	23	19.4	7.29	94.3	361	6.42	7.63
D-03-068	18-Jun-03	25						
D-03-069	18-Jun-03	25						
D-03-070	23-Jun-03	23						
D-03-071	23-Jun-03	21	21.5	6.74	89.8	1058	2.12	8.21
D-03-072	23-Jun-03						2.03	
D-03-073	23-Jun-03	23	21.4	6.52	88.5	601	11.64	6.93
D-03-074	24-Jun-03							
D-03-075	24-Jun-03	20	11.4	0.43	4.6	>2000	13.52	8.60
D-03-076	24-Jun-03	20	16.0	7.26	87.8	>2000	5.68	8.47

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-03-077	24-Jun-03	21						
D-03-078	24-Jun-03	17	19.8	8.04	103.4	1013	1.09	8.17
D-03-079	24-Jun-03	17						
D-03-080	24-Jun-03	16						
D-03-081	24-Jun-03	16	18.4	7.00	89.2	627	0.92	8.53
D-03-082	24-Jun-03	17						
D-03-083	26-Jun-03	19	18.8	7.40	105.4	737	0.54	8.53
D-03-084	26-Jun-03	16	13.2	3.91	49	381	14.57	7.98
D-03-085	27-Jun-03	18	15.1	7.34	89	339	6.3	8.57
D-03-086	27-Jun-03		18.0	6.89	84.5	552	3.58	6.93
D-03-087	27-Jun-03							
D-03-088	2-Jul-03	21	21.8	7.27	92.6	337	5.02	8.82
D-03-089	2-Jul-03	22	22.9	7.41	100.1	484	11.61	8.60
D-03-090	2-Jul-03	27						
D-03-091	3-Jul-03	18	17.3	6.14	79.4	1083	6.42	8.28
D-03-092	3-Jul-03	22						
D-03-093	3-Jul-03	21						
D-03-094	8-Jul-03	18	14.8	2.08	38.2	629	16.02	8.14
D-03-095	8-Jul-03	19	16.2	7.01	88.5	602	0.81	8.15
D-03-096	8-Jul-03	21	16.7	6.44	79.4	725	4.46	8.44
D-03-097	9-Jul-03	15	15.6	8.13	96.1	488	3.79	8.08
D-03-098	9-Jul-03	16	12.5	7.09	84.3	648	1.93	8.49
D-03-099	9-Jul-03							
D-03-100	9-Jul-03	18	20.1	8.49	103.8	995	0.41	6.93
D-03-101	9-Jul-03	20	17.7	6.33	80.1	516	2.45	8.50
D-03-102	11-Jul-03	19	16.5	4.70	57	570	4.76	8.16
D-03-103	11-Jul-03	19	18.3	7.32	90.7	499	0.71	8.63
D-03-104	11-Jul-03							
D-03-105	11-Jul-03	23						
D-03-106	14-Jul-03	18						
D-03-107	14-Jul-03	19						
D-03-108	14-Jul-03	19						
D-03-109	14-Jul-03	16						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-03-110	14-Jul-03	18	20.6	9.04	122.8	1139	42.41	8.47
D-03-111	14-Jul-03	18	22.2	6.01	79	604	26.52	8.59
D-03-112	15-Jul-03	21						
D-03-113	15-Jul-03	21						
D-03-114	15-Jul-03	21						
D-03-115	15-Jul-03	22						
D-03-116	15-Jul-03	24						
D-03-117	15-Jul-03	23	23.6	5.47	75.5	699	11.51	6.92
D-03-118	15-Jul-03	24						
D-03-119	15-Jul-03	26						
D-03-120	15-Jul-03	30						
D-03-121	16-Jul-03	22	16.3	7.15	89.8	464	1.45	7.15
D-03-122	16-Jul-03	23	21.6	6.78	89.6	502	2.56	7.13
D-03-123	16-Jul-03							
D-03-124	16-Jul-03	23	26.4	7.86	111.8	532	4.15	7.00
D-03-125	16-Jul-03	21						
D-03-126	17-Jul-03	17	17.0	6.69	78.8	612	9.11	6.97
D-03-127	17-Jul-03	19						
D-03-128	17-Jul-03	20						
D-03-129	17-Jul-03	21						
D-03-130	17-Jul-03	22						
D-03-131	17-Jul-03	22						
D-03-132	17-Jul-03	24	18.2	8.15	99.2	614	2.35	7.20
D-03-133	17-Jul-03	24						
D-03-134	17-Jul-03	24	20.8	5.25	74.6	551	3.36	7 - 7.5*
D-03-135	18-Jul-03	19						
D-03-136	18-Jul-03	24						
D-03-137	18-Jul-03	24	14.5			430		
D-03-138	18-Jul-03	28	24.6	8.06	124.1	582	3.44	7.27
D-03-139	18-Jul-03	26						
D-03-140	21-Jul-03	24						
D-03-141	22-Jul-03	18						
D-03-142	22-Jul-03	19	17.2	6.62	83.5	425	8.14	6.91

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-03-143	22-Jul-03	26	19.1	6.80	92.3	436	2.8	6.91
D-03-144	22-Jul-03	26	21.0	5.66	76.4	423	2.21	7.84
D-03-145	22-Jul-03	27	20.2	4.20	75	429	3.13	6.90
D-03-146	22-Jul-03	28						
D-03-147	23-Jul-03	18						
D-03-148	23-Jul-03	18						
D-03-149	23-Jul-03	20						
D-03-150	23-Jul-03	23						
D-03-151	23-Jul-03	24						
D-03-152	23-Jul-03	24	19.2	1.99	26.5	443	7.4	6.91
D-03-153	23-Jul-03	26.5						
D-03-154	23-Jul-03	20	19.4	10.32	132.3	339	2.72	6.91
D-03-155	23-Jul-03	29	19.2	7.76	92.5	460	0.00	6.90
D-03-156	23-Jul-03	32	21.2	11.15	149.6	233	0.00	6.90
D-03-157	24-Jul-03	26						
D-03-158	24-Jul-03	26						
D-03-159	24-Jul-03	25						
D-03-160	24-Jul-03	26						
D-03-161	24-Jul-03	26						
D-03-162	24-Jul-03	26						
D-03-163	24-Jul-03	28						
D-03-164	24-Jul-03	28	22.6	9.14	126.1	600	6.62	6.90
D-03-165	24-Jul-03	27						
D-03-166	24-Jul-03	27						
D-03-167	25-Jul-03	22	19.4	9.08	117.4	400	5.12	6.90
D-03-168	10-Sep-03	14.5	18.6	5.23	64.2	190	0.75	
D-03-169	11-Sep-03	13	17.6	4.36	52.6	168	0.00	
D-03-170	11-Sep-03	16.5	17.6	5.96	71.7	181	2.75	6.81
W-03-001	20-May-03	17.5	14.2	9.48	102.6	280	30.1	7.84
W-03-002	21-May-03	13	0.9	5.51	49.9	251	16.42	7.74
W-03-003	21-May-03	18	9.1	8.43	84.7	266	9.12	8.03
W-03-004	21-May-03	18	10.1	11.10	109.6	251	5.70	7 - 7.5*
W-03-005	21-May-03	18						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-03-006	21-May-03	18						
W-03-007	21-May-03	18						
W-03-008	22-May-03	17	11.0	5.38	54.2	739	0.25	7 - 7.5*
W-03-009	22-May-03	20	10.3	6.49	65.5	401	2.02	7 - 7.5*
W-03-010	22-May-03	21	15.0			729	1.08	7 - 7.5*
W-03-011	22-May-03	21						
W-03-012	22-May-03	25						
W-03-013	23-May-03	25	16.0	8.20	92.7	464	0.00	7 - 7.5*
W-03-014	26-May-03	27.5						
W-03-015	26-May-03	27.5						
W-03-016	26-May-03	28						
W-03-017	26-May-03	28						
W-03-018	26-May-03	28						
W-03-019	26-May-03	28	23.1	10.84	140.4	1023	1.22	
W-03-020	26-May-03	27	24.7	9.56	127.5	497	13.97	8.50
W-03-021	27-May-03	25						
W-03-022	27-May-03	27						
W-03-023	27-May-03	28						
W-03-024	27-May-03	28						
W-03-025	27-May-03	25						
W-03-026	27-May-03	25	22.2	11.94		1402	10.67	9.09
W-03-027	27-May-03	24						
W-03-028	28-May-03	24						
W-03-029	28-May-03	25.5						
W-03-030	28-May-03	24.5	20.1	9.68	118.4	820	2.32	
W-03-031	28-May-03	25						
W-03-032	28-May-03	28						
W-03-033	28-May-03	28	23.2	5.96	72.2	646	2.38	7 - 7.5*
W-03-034	28-May-03	28						
W-03-035	29-May-03	22	16.4	8.48	94.6	1484	0.00	8.56
W-03-036	29-May-03	30	18.0	4.86	61.8	1383	3.47	8.12
W-03-037	29-May-03	29.5						
W-03-038	29-May-03	29.5						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (μS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-03-039	29-May-03	28.5						
W-03-040	29-May-03	28						
W-03-041	29-May-03	26						
W-03-042	29-May-03	26						
W-03-043	29-May-03	26						
W-03-044	3-Jun-03	18	17.2	8.48	88.1	1350	37.91	7.80
W-03-045	3-Jun-03	18.5						
W-03-046	3-Jun-03	18	14.9	6.42	66.3	555	5.14	7.50
W-03-047	3-Jun-03	18						
W-03-048	3-Jun-03	20						
W-03-049	3-Jun-03	20	17.0	12.80		697	0.00	7 - 7.5*
W-03-050	4-Jun-03	20	17.7	9.68	115.3	753	8.00	7 - 7.5*
W-03-051	4-Jun-03	20						
W-03-052	4-Jun-03	18.5						
W-03-053	4-Jun-03	20						
W-03-054	4-Jun-03	20						
W-03-055	4-Jun-03	20	16.9	10.90	128	913	10.00	7 - 7.5*
W-03-056	4-Jun-03	18						
W-03-057	4-Jun-03	17.5						
W-03-058	4-Jun-03	17.5						
W-03-059	4-Jun-03	17.5						
W-03-060	5-Jun-03	18.5						
W-03-061	5-Jun-03	20						
W-03-062	5-Jun-03	20						
W-03-063	5-Jun-03	21						
W-03-064	5-Jun-03	22	17.3	7.86	95	1335	11.70	7 - 7.5*
W-03-065	5-Jun-03	24	18.4	9.52	118.4	868	67	7 - 7.5*
W-03-066	5-Jun-03	24	19.8	7.01	89.2	541	77	7 - 7.5*
W-03-067	6-Jun-03	15	15.5	6.24	73.1	861	79	7.90
W-03-068	6-Jun-03	15						
W-03-069	6-Jun-03	18	17.3	5.62	68	635	76	7 - 7.5*
W-03-070	6-Jun-03	19	17.0	3.37	40.1	468	255	7 - 7.5*
W-03-071	9-Jun-03	20						

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-03-072	9-Jun-03	20	14.4	8.16	92.8	512	276	8.09
W-03-073	9-Jun-03	20	19.4	8.17	98.9	343	> 300	7 - 7.5*
W-03-074	9-Jun-03	17						
W-03-075	9-Jun-03	17						
W-03-076	10-Jun-03	16						
W-03-077	10-Jun-03	17	16.0	8.10	92.2	569	33.78	7 - 7.5*
W-03-078	10-Jun-03	18	17.7	7.45	87.6	399	> 300	7 - 7.5*
W-03-079	10-Jun-03	21	14.2	8.36	90.5	306	174	7 - 7.5*
W-03-080	10-Jun-03	24	22.1	7.72	97.8	481	127	7 - 7.5*
W-03-081	11-Jun-03	20						
W-03-082	11-Jun-03	21						
W-03-083	11-Jun-03	21						
W-03-084	11-Jun-03	22	18.9	11.21	133	1120	26.04	8.40
W-03-085	11-Jun-03	23						
W-03-086	11-Jun-03	24						
W-03-087	11-Jun-03	24	19.0	11.10	134.4	411	47.84	
W-03-088	11-Jun-03	24	25.0	9.24	126.8	426	61	
W-03-089	13-Jun-03	22						
W-03-090	13-Jun-03	23						
W-03-091	13-Jun-03	24	20.0	10.96	137.3	905	82	8.50
W-03-092	13-Jun-03	24	21.2	8.70	110.5	350	78	
W-03-093	13-Jun-03	26	23.4	9.87	129.4	459	52	
W-03-094	16-Jun-03	29	21.3	0.57	20	49	44.97	
W-03-095	16-Jun-03	27.5	23.0	6.93	91.2	25	65	
W-03-096	16-Jun-03	27	23.6	4.02	6.1	449	0.00	
W-03-097	17-Jun-03	24	19.6	4.95	62.3	55	122	
W-03-098	17-Jun-03	27	16.8	2.78	32.1	68	9.99	
W-03-099	17-Jun-03	31						
W-03-100	17-Jun-03	30	22.4	9.55	124.5	212	0.00	
W-03-101	18-Jun-03	17	13.3	7.89	85.4	125	84	
W-03-102	18-Jun-03	21						
W-03-103	18-Jun-03	21.5						
W-03-104	18-Jun-03	22.5	17.3	5.01	59.1	99	7.06	

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-03-105	18-Jun-03	23						
W-03-106	18-Jun-03	22						
W-03-107	18-Jun-03	24	17.9	6.90	83.7	112	260	
W-03-108	19-Jun-03	18						
W-03-109	19-Jun-03	18						
W-03-110	19-Jun-03	21	13.3	7.02	76.5	99	> 300	
W-03-111	19-Jun-03	26	15.2	6.97	78	81	20.82	
W-03-112	19-Jun-03	28	18.1	7.74	92.8	109	> 300	
W-03-113	24-Jun-03	17	19.6	6.52	81.2	432	269	8.09
W-03-114	24-Jun-03	21	19.8	6.31	76.5	424	87	7 - 7.5*
W-03-115	24-Jun-03	19.5						
W-03-116	24-Jun-03	20						
W-03-117	24-Jun-03	23						
W-03-118	24-Jun-03	24						
W-03-119	24-Jun-03	20.5						
W-03-120	25-Jun-03	18.5						
W-03-121	25-Jun-03	15						
W-03-122	25-Jun-03	15						
W-03-123	25-Jun-03	13.5						
W-03-124	25-Jun-03	13.5						
W-03-125	25-Jun-03	13.5						
W-03-126	25-Jun-03	13						
W-03-127	25-Jun-03	15						
W-03-128	25-Jun-03	15						
W-03-129	25-Jun-03	15						
W-03-130	25-Jun-03	14						
W-03-131	25-Jun-03	13						
W-03-132	26-Jun-03	15						
W-03-133	26-Jun-03	15						
W-03-134	26-Jun-03	16						
W-03-135	26-Jun-03	16						
W-03-136	26-Jun-03	16						
W-03-137	26-Jun-03	15						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-03-138	26-Jun-03	15						
W-03-139	26-Jun-03	15						
W-03-140	26-Jun-03	16.5						
W-03-141	26-Jun-03	16.5	17.0	10.28	115.1	1291	0.84	
W-03-142	26-Jun-03	16.5	17.8	9.90	116.6	680	160	
W-03-143	2-Jul-03	26	23.0	2.70	44.4	822	35.81	
W-03-144	2-Jul-03	27	26.2	6.57	90	469	243	
W-03-145	2-Jul-03	26						
W-03-146	2-Jul-03	27.5	24.8	8.85	118.5	203	52	
W-03-147	3-Jul-03	20						
W-03-148	3-Jul-03	19						
W-03-149	3-Jul-03	19						
W-03-150	3-Jul-03	21	21.4	3.93	49.9	470	0.00	
W-03-151	3-Jul-03	26	23.3	6.39	84	292	7.57	
W-03-152	3-Jul-03	26						
W-03-153	3-Jul-03	26						
W-03-154	4-Jul-03	20	20.8	4.91	60.9	348	0.00	
W-03-155	4-Jul-03	27	20.3	7.99	97.5	290	64	
W-03-156	4-Jul-03	24						
W-03-157	4-Jul-03	24.5						
W-03-158	4-Jul-03	25	22.9			229	> 300	
W-03-159	5-Jul-03	20						
W-03-160	5-Jul-03	20						
W-03-161	5-Jul-03	22						
W-03-162	5-Jul-03	21	20.1	1.86	23.4	224	0.00	
W-03-163	5-Jul-03	22	21.0	6.18	76.5	95	113	
W-03-164	5-Jul-03	23						
W-03-165	5-Jul-03	25	22.9	6.00	70	153	> 300	
W-03-166	6-Jul-03	21.5						
W-03-167	6-Jul-03	22	17.2	9.98	116.2	277	105	
W-03-168	6-Jul-03	25						
W-03-169	6-Jul-03	25						
W-03-170	6-Jul-03	25						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-03-171	6-Jul-03	22.5						
W-03-172	6-Jul-03	23.5	19.9	5.28	63.8	240	> 300	
W-03-173	6-Jul-03	24.5	21.1	6.73	83.6	280	141	
W-03-174	6-Jul-03	25						
W-03-175	6-Jul-03	25						
W-03-176	7-Jul-03	19	20.1	3.26	41.6	120	59	
W-03-177	8-Jul-03	17						
W-03-178	8-Jul-03	17						
W-03-179	8-Jul-03	17						
W-03-180	8-Jul-03	17						
W-03-181	8-Jul-03	17						
W-03-182	8-Jul-03	18	19.6	2.31	27.7	961	95	
W-03-183	8-Jul-03	18						
W-03-184	8-Jul-03	18						
W-03-185	8-Jul-03	19	18.5	6.30	78.3	884	132	
W-03-186	9-Jul-03	19	17.6	2.70	31.4	1190	188	
W-03-187	9-Jul-03	20						
W-03-188	9-Jul-03	20						
W-03-189	9-Jul-03	20	19.0	12.12	146.7	366	33.42	
W-03-190	16-Jul-03	27						
W-03-191	16-Jul-03	28	23.8	6.74	87.4	309	245	
W-03-192	16-Jul-03	29.5						
W-03-193	16-Jul-03	30						
W-03-194	16-Jul-03	30	27.7	5.78	97.2	379	96	
W-03-195	16-Jul-03	30				295	56	
W-03-196	17-Jul-03	18						
W-03-197	17-Jul-03	20						
W-03-198	17-Jul-03	23	20.1	2.88	34.6	90	13.08	
W-03-199	17-Jul-03	23						
W-03-200	17-Jul-03	24						
W-03-201	17-Jul-03	24	19.8	3.67	44.2	379	51	
W-03-202	18-Jul-03	18						
W-03-203	18-Jul-03	18	16.6	6.46	77.2	302	0.00	

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-03-204	18-Jul-03	20	17.9	2.97	35.8	423	0.69	
W-03-205	18-Jul-03	20	19.4	10.21	129.1	329	13.09	
W-03-206	31-Jul-03	16	19.4			400	34.74	7.99
W-03-207	31-Jul-03	23.4						
W-03-208	31-Jul-03	23						
W-03-209	31-Jul-03	23.6						
W-03-210	31-Jul-03	23.4	20.9	10.96	136.7	711	4.94	
W-03-211	31-Jul-03	25.2	23.7	6.31	86.6	>2000	0.00	
W-03-212	1-Aug-03	24.1						
W-03-213	1-Aug-03	24.1						
W-03-214	1-Aug-03	24.1						
W-03-215	1-Aug-03	25						
W-03-216	1-Aug-03	23.3						
W-03-217	1-Aug-03	24.8						
W-03-218	1-Aug-03	25						
W-03-219	1-Aug-03	25						
W-03-220	5-Aug-03	23.6						
W-03-221	5-Aug-03	23.6						
W-03-222	5-Aug-03	24						
W-03-223	5-Aug-03	28	23.7	5.36	75.1	504	7.71	
W-03-224	5-Aug-03	28.8	27.0			1267	44.2	
W-03-225	5-Aug-03	27.3						
W-03-226	5-Aug-03	27.3						
W-03-227	5-Aug-03	27.3	26.2	6.83	89.5	424	2.81	
W-03-228	6-Aug-03	17						
W-03-229	6-Aug-03	21	10.0			634	3.15	
W-03-230	6-Aug-03	23						
W-03-231	6-Aug-03	24.9						
W-03-232	6-Aug-03	24.4						
W-03-233	6-Aug-03	28.1						
W-03-234	6-Aug-03	27						
W-03-235	6-Aug-03	25.8						
W-03-236	6-Aug-03	26.8						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-03-237	6-Aug-03	28	17.3			532	12.59	
W-03-238	7-Aug-03	22.1	22.0			610	9.02	7.90
W-03-239	7-Aug-03	22.3	16.0			502	> 300	
W-03-240	7-Aug-03	27.5						
W-03-241	7-Aug-03	29.5						
W-03-242	7-Aug-03	30						
W-03-243	7-Aug-03	29						
W-03-244	7-Aug-03	30						
W-03-245	7-Aug-03	30						
W-03-246	8-Aug-03	22						
W-03-247	8-Aug-03	25	21.1			303	2.79	7.21
W-03-248	8-Aug-03	28	20.0			479	5.08	7.20
W-03-249	11-Aug-03	28.9	20.6			257	0.24	7.03
W-03-250	11-Aug-03	30						
W-03-251	11-Aug-03	30	26.3			316	4.82	9.16
W-03-252	11-Aug-03	32.5						
W-03-253	11-Aug-03	33						
W-03-254	11-Aug-03	33.5						
W-03-255	12-Aug-03	20.3						
W-03-256	12-Aug-03	25.6						
W-03-257	12-Aug-03	25.6						
W-03-258	12-Aug-03	25.3						
W-03-259	12-Aug-03	25.3						
W-03-260	12-Aug-03	27.7						
W-03-261	12-Aug-03	27.7						
W-03-262	12-Aug-03	27.7						
W-03-263	12-Aug-03	28						
W-03-264	12-Aug-03	28						
W-03-265	12-Aug-03	28						
W-03-266	13-Aug-03	24.3	21.1			806	13.43	7.76
W-03-267	13-Aug-03	24.7	21.5			795	0	7.99
B-04-001	1-May-04	8.0						
B-04-002	1-May-04	8.0	4.9	8.53	77.3	547	10.02	7.98

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-003	1-May-04	8.0	6.5	8.82	85.0	455	24.79	8.11
B-04-004	1-May-04	8.0	6.5	8.42	82.0	358	75	7.50
B-04-005	1-May-04	12.0						
B-04-006	1-May-04	12.0	6.6	8.43	79.6	536	1.13	8.17
B-04-007	1-May-04	9.0						
B-04-008	1-May-04	12.0	11.4	10.24	111.3	674	1.66	6.74
B-04-009	2-May-04	8.0						
B-04-010	2-May-04	10.0	4.3	8.32	73.1	809	0.00	7.76
B-04-011	2-May-04	10.0	8.1	7.01	73.0	805	0.87	7.75
B-04-012	2-May-04	12.0	9.4	9.80	97.5	523	3.92	8.21
B-04-013	2-May-04	12.0						
B-04-014	2-May-04	14.0	10.3	9.33	90.5	579	4.53	7.34
B-04-015	2-May-04	12.0	9.7	9.60	98.6	588	0.52	8.04
B-04-016	2-May-04	17.0						
B-04-017	2-May-04	12.0	12.3			700	1.48	7.88
B-04-018	3-May-04	6.0	7.2	10.20	95.8	1043	34.28	7.77
B-04-019	3-May-04	7.0	8.0	10.79	91.5	751	35.30	7.96
B-04-020	3-May-04	8.0	8.4	10.63	99.8	674	20.68	7.90
B-04-021	3-May-04	6.0	9.0	10.63	95.2	741	6.27	7.75
B-04-022	3-May-04	5.0	10.1	10.72	100.6	1394	33.23	7.85
B-04-023	4-May-04	6.0						
B-04-024	4-May-04	6.0						
B-04-025	4-May-04	6.0						
B-04-026	4-May-04	5.0	6.4	10.07	90.0	888	15.88	7.85
B-04-027	4-May-04	8.0	9.5	13.21		491	77	8.61
B-04-028	4-May-04	10.0	14.0	10.18	100.0	875	55	8.04
B-04-029	4-May-04	12.0	14.0					
B-04-030	4-May-04	12.0	10.1	11.30	100.1	880	14.17	7.84
B-04-031	6-May-04	9.0	9.4	10.66	100.1	1350	6.34	8.14
B-04-032	6-May-04	9.0						
B-04-033	6-May-04	9.0						
B-04-034	6-May-04	9.0						
B-04-035	6-May-04	9.0						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-036	6-May-04	9.0						
B-04-037	6-May-04	9.0	11.8	6.97	75.7	782	1.46	7.20
B-04-038	6-May-04	10.0						
B-04-039	6-May-04	10.0						
B-04-040	7-May-04	12.0						
B-04-041	7-May-04	12.0	8.6	4.60	44.5	691	0.97	
B-04-042	7-May-04	12.0						
B-04-043	7-May-04	12.0	8.5	6.56	65.3	1318	0.80	
B-04-044	7-May-04	12.0	11.5	10.32	104.5	1268	19.59	
B-04-045	7-May-04	14.0						
B-04-046	10-May-04	10.0	10.8	10.28	107.9	926	10.85	
B-04-047	10-May-04	10.0	13.6	9.27	102.0	853	6.00	
B-04-048	10-May-04	12.0	16.6	10.82	121.5	768	2.59	
B-04-049	13-May-04	3.0						
B-04-050	13-May-04	4.0						
B-04-051	13-May-04	4.0						
B-04-052	13-May-04	3.0						
B-04-053	13-May-04	4.0						
B-04-054	13-May-04	5.0						
B-04-055	13-May-04	5.0	8.4	10.83	111.5	839	7.80	
B-04-056	13-May-04	4.0						
B-04-057	14-May-04	3.0						
B-04-058	14-May-04	3.0	4.7	8.86	86.0	1112	5.21	
B-04-059	14-May-04	4.0						
B-04-060	14-May-04	4.0	5.4	9.48	93.9	534	4.30	
B-04-061	14-May-04	8.0						
B-04-062	14-May-04	5.0						
B-04-063	14-May-04	5.0						
B-04-064	14-May-04	8.0	10.5	9.45	96.8	706	7.60	
B-04-065	17-May-04	19.0						
B-04-066	17-May-04	19.0	14.4	10.07	108.8	510	3.62	
B-04-067	17-May-04	20.0						
B-04-068	17-May-04	20.0						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-069	18-May-04	20.0	11.4	10.47	111.8	534	7.64	
B-04-070	18-May-04	20.0	13.3	10.26	118.5	432	4.57	
B-04-071	18-May-04	26.0						
B-04-072	18-May-04	25.0	17.6	10.31	120.9	637	6.40	
B-04-073	19-May-04		12.7	9.14	97.5	320	15.55	7.45
B-04-074	19-May-04							
B-04-075	20-May-04	9.0	11.0	8.47	85.9	693	1.15	7.45
B-04-076	20-May-04	9.0	10.1	8.11	81.2	590	0.00	7.45
B-04-077	20-May-04	9.0	10.4	4.71	47.0	714	2.64	7.45
B-04-078	20-May-04	9.0	10.9	4.62	46.9	718	2.70	7.47
B-04-079	20-May-04	9.0	10.5	5.66	57.4	963	3.35	7.48
B-04-080	20-May-04	10.0						
B-04-081	20-May-04	10.0						
B-04-082	20-May-04	10.0						
B-04-083	20-May-04	10.0						
B-04-084	20-May-04	10.0						
B-04-085	20-May-04	10.0						
B-04-086	21-May-04		10.1	6.37	63.5	554	0.86	7.47
B-04-087	22-May-04	-1.0						
B-04-088	25-May-04	5.0						
B-04-089	25-May-04	5.0						
B-04-090	25-May-04	5.0						
B-04-091	25-May-04	5.0						
B-04-092	25-May-04	5.0	9.7	9.57	100.3	1479	3.94	7.46
B-04-093	31-May-04	11.0	16.5	6.91	76.8	1381	3.64	7.45
B-04-094	31-May-04	11.0	12.5	6.24	66.8	715	11.89	7.45
B-04-095	31-May-04	12.0	12.8	8.08	89.6	1592	3.71	7.45
B-04-096	1-Jun-04	10.0						
B-04-097	1-Jun-04	11.0						
B-04-098	1-Jun-04	11.0						
B-04-099	1-Jun-04	11.0						
B-04-100	1-Jun-04	10.0						
B-04-101	1-Jun-04	10.0	12.7	7.12	79.8	551	18.36	7.45

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-102	1-Jun-04	12.0	16.0	6.81	80.6	706	1.21	7.44
B-04-103	1-Jun-04	13.0						
B-04-104	1-Jun-04	11.0						
B-04-105	1-Jun-04	12.0	12.5	7.21	80.5	587	2.29	7.45
B-04-106	2-Jun-04	16.0						
B-04-107	2-Jun-04	18.0						
B-04-108	2-Jun-04	18.0	16.3	8.53	105.6	808	0.69	7.44
B-04-109	2-Jun-04	17.0	22.8	9.16	126.6	273	13.59	7.43
B-04-110	2-Jun-04	19.0	20.8	8.92	115.6	747	2.66	7.43
B-04-111	2-Jun-04	20.0						
B-04-112	2-Jun-04	21.0						
B-04-113	2-Jun-04	18.0	17.2	9.40	115.6	780	2.25	7.44
B-04-114	3-Jun-04	18.0	15.6	4.34	55.8	402	6.68	7.44
B-04-115	3-Jun-04	18.0						
B-04-116	3-Jun-04	18.0	17.3	8.05	105.8	493	5.06	7.44
B-04-117	4-Jun-04	17.0						
B-04-118	4-Jun-04	24.0						
B-04-119	4-Jun-04	24.0						
B-04-120	4-Jun-04	24.0						
B-04-121	4-Jun-04	25.0	19.0	9.00	114.5	562	5.81	7.44
B-04-122	4-Jun-04	26.0	21.7	6.30	83.9	557	6.48	7.43
B-04-123	7-Jun-04	20.0	17.0	7.81	92.1	643	11.92	7.44
B-04-124	7-Jun-04	20.0	18.2	4.00	49.0	1354	2.45	7.44
B-04-125	7-Jun-04	20.0	20.0	5.63	73.6	549	6.12	7.43
B-04-126	8-Jun-04	12.0	15.2	7.80	88.6	857	5.06	7.70
B-04-127	8-Jun-04	13.0	15.7	6.52	74.6	952	2.80	
B-04-128	8-Jun-04	15.0						
B-04-129	8-Jun-04	16.0	17.3	8.51	103.8	705	4.78	7.59
B-04-130	9-Jun-04	13.0						
B-04-131	9-Jun-04	13.0	13.1	9.24	111.5	N/A	0.75	
B-04-132	9-Jun-04	16.0						
B-04-133	9-Jun-04	15.0	17.6	7.88	98.0	N/A	1.21	
B-04-134	9-Jun-04	17.0						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-135	9-Jun-04	18.0						
B-04-136	10-Jun-04	10.0	17.2	8.62	107.6	N/A	4.77	
B-04-137	10-Jun-04	13.0						
B-04-138	10-Jun-04	13.0						
B-04-139	10-Jun-04	13.0						
B-04-140	14-Jun-04	12.0	15.3	10.53	124.6	N/A	7.59	
B-04-141	14-Jun-04	12.0	15.5	9.70	114.6	N/A	19.29	
B-04-142	14-Jun-04	12.0						
B-04-143	14-Jun-04	12.0						
B-04-144	15-Jun-04	15.0	15.2	6.97	85.9	600	10.67	8.38
B-04-145	15-Jun-04	13.0	15.7	7.34	89.6	772	0.53	8.20
B-04-146	15-Jun-04	15.0						
B-04-147	15-Jun-04	19.0						
B-04-148	15-Jun-04	18.0						
B-04-149	15-Jun-04	15.0	18.5	7.38	92.3	511	13.89	8.03
B-04-150	16-Jun-04	16.0						
B-04-151	16-Jun-04	17.0						
B-04-152	16-Jun-04	18.0	17.6	7.36	91.7	488		7.65
B-04-153	16-Jun-04	21.0	21.4	7.09	95.0	634	8.97	8.40
B-04-154	16-Jun-04	23.0						
B-04-155	16-Jun-04	24.0	21.0	9.41	124.6	604	2.57	8.17
B-04-156	17-Jun-04	19.0						
B-04-157	17-Jun-04	19.0						
B-04-158	17-Jun-04	19.0	19.0					
B-04-159	18-Jun-04	15.0						
B-04-160	18-Jun-04	15.0						
B-04-161	18-Jun-04	15.0	15.7	8.09	98.6	1022	32.99	8.53
B-04-162	18-Jun-04	15.0						
B-04-163	21-Jun-04	13.0	16.9	10.80	127.1	1348	4.27	7.64
B-04-164	21-Jun-04	15.0	15.5	6.60	77	844	3.69	7.99
B-04-165	21-Jun-04	15.0	16.0	7.76	94.7	842	3.52	8.11
B-04-166	21-Jun-04	14.0	14.0					
B-04-167	21-Jun-04	17.0	17.3	9.08	122	985	0.75	7.64

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-168	22-Jun-04	12.0						
B-04-169	22-Jun-04	13.0						
B-04-170	22-Jun-04	13.0						
B-04-171	22-Jun-04	14.0						
B-04-172	22-Jun-04	15.0						
B-04-173	22-Jun-04	20.0	15.5	3.43	41	777	0.00	7.74
B-04-174	22-Jun-04	21.0	17.7	8.13	101.7	542	3.99	7.64
B-04-175	22-Jun-04	20.0						
B-04-176	23-Jun-04	12.0						
B-04-177	23-Jun-04	12.0						
B-04-178	23-Jun-04	13.0						
B-04-179	23-Jun-04	14.0						
B-04-180	23-Jun-04							
B-04-181	28-Jun-04	30.0	21.2	8.42	113	499	5.68	7.64
B-04-182	28-Jun-04	31.0						
B-04-183	28-Jun-04	31.0						
B-04-184	28-Jun-04	31.0						
B-04-185	28-Jun-04	29.0						
B-04-186	29-Jun-04	24.0	14.8	9.30	106.7	490	50	8.06
B-04-187	29-Jun-04	31.0	22.7	7.60	100	551	20.00	8.02
B-04-188	29-Jun-04	31.0	23.4	7.87	104	519	24.76	8.03
B-04-189	30-Jun-04	17.0	26.4	7.86	99	766	7.18	8.02
B-04-190	30-Jun-04	18.0						
B-04-191	5-Jul-04	18.0	17.5	8.44	99	765	9.62	8.51
B-04-192	5-Jul-04	18.0						
B-04-193	5-Jul-04	19.0						
B-04-194	6-Jul-04	15.0						
B-04-195	6-Jul-04	17.0	16.4	6.65	77.6	601	3.04	8.48
B-04-196	6-Jul-04	19.0	17.1	8.63	110.1	522	10.99	8.04
B-04-197	6-Jul-04	21.0	19.4	8.25	106.3	454	2.41	9.24
B-04-198	6-Jul-04	21.0	19.5	8.14	106	241	5.01	8.03
B-04-199	6-Jul-04	22.0	18.8	8.03	102.1	365	11.54	9.15
B-04-200	6-Jul-04	21.0	20.6	7.58	101.7	384	7.28	8.98

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-201	6-Jul-04	20.0						
B-04-202	6-Jul-04	16.0						
B-04-203	7-Jul-04	16.0						
B-04-204	7-Jul-04	18.0						
B-04-205	7-Jul-04	19.0	18.7	7.62	92.1	705	3.97	8.74
B-04-206	7-Jul-04	21.0						
B-04-207	7-Jul-04	23.0						
B-04-208	7-Jul-04	21.0						
B-04-209	7-Jul-04	22.0						
B-04-210	7-Jul-04	24.0						
B-04-211	7-Jul-04	23.0	22.2	9.44	123.7	1536	3.26	8.75
B-04-212	7-Jul-04	23.0						
B-04-213	7-Jul-04	22.0						
B-04-214	7-Jul-04	23.0	22.3	7.71	110.1	622	16.52	9.01
B-04-215	7-Jul-04	23.0	22.8	7.06	107.6	1224	6.86	8.67
B-04-216	7-Jul-04	23.0						
B-04-217	8-Jul-04	13.0	15.0	8.20	96.9	246	5.27	9.13
B-04-218	8-Jul-04	13.0	16.3	7.71	94.8	528	14.40	8.92
B-04-219	8-Jul-04	13.0	18.3	7.09	86	530	11.74	8.76
B-04-220	8-Jul-04	12.0	17.3	8.64	104	710	19.50	8.24
B-04-221	8-Jul-04	18.0						
B-04-222	8-Jul-04	17.0						
B-04-223	9-Jul-04	19.0	18.9	8.15	97.3	751	4.06	9.06
B-04-224	13-Jul-04	14.0	16.9	8.73	103	713	66	9.15
B-04-225	13-Jul-04	21.0	19.7	3.53	43.8	871	3.37	8.63
B-04-226	13-Jul-04	24.0	25.6	6.82	92.3	907	7.44	
B-04-227	13-Jul-04	25.0						
B-04-228	13-Jul-04	26.0	24.2	7.12	109.1	488	9.75	
B-04-229	14-Jul-04	20.0						
B-04-230	14-Jul-04	22.0	19.4	7.41	89.5	586	4.70	8.48
B-04-231	14-Jul-04	25.0	19.7	6.49	79.5	600	3.30	9.19
B-04-232	14-Jul-04	28.0	22.0	8.07	99	478	5.83	8.71
B-04-233	14-Jul-04	28.0						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-234	14-Jul-04	29.0						
B-04-235	14-Jul-04	28.0						
B-04-236	14-Jul-04	28.0						
B-04-237	14-Jul-04	29.0						
B-04-238	14-Jul-04	30.0	27.1	8.22	112.4	217	2.98	8.66
B-04-239	15-Jul-04	19.0						
B-04-240	15-Jul-04	25.0	25.6	6.93	92.9	630	4.16	8.95
B-04-241	19-Jul-04	30.0	25.2	7.06	102.7	384	11.43	8.95
B-04-242	19-Jul-04	31.0						
B-04-243	19-Jul-04	30.0						
B-04-244	20-Jul-04	22.0	25.4	5.83	79.6	622	10.07	8.75
B-04-245	20-Jul-04	23.0						
B-04-246	20-Jul-04	24.0						
B-04-247	20-Jul-04	25.0						
B-04-248	20-Jul-04	25.0	25.4	4.95	65.3	>2000	5.13	8.68
B-04-249	20-Jul-04	26.0	24.9	6.22	82.5	1486	2.16	8.35
B-04-250	20-Jul-04	29.0	27.3	3.76	51.6	1095	1.54	8.17
B-04-251	21-Jul-04	16.0	21.1	2.70	33	>2000	3.61	7.93
B-04-252	21-Jul-04	18.0						
B-04-253	21-Jul-04	18.0						
B-04-254	21-Jul-04	19.0						
B-04-255	21-Jul-04	18.0						
B-04-256	21-Jul-04	18.0	22.1	0.83	10.5	1083	4.81	7.98
B-04-257	21-Jul-04	16.0	22.3	6.05	75	1075	9.71	8.82
B-04-258	21-Jul-04	18.0						
B-04-259	21-Jul-04	17.0	21.5	8.54	105	745	2.29	8.95
B-04-260	21-Jul-04	19.0						
B-04-261	21-Jul-04	18.0						
B-04-262	21-Jul-04	18.0						
B-04-263	22-Jul-04	17.0	19.1	3.47	35.7	841	3.10	8.25
B-04-264	22-Jul-04	18.0	20.5	3.89	51.1	832	6.81	8.23
B-04-265	22-Jul-04	19.0						
B-04-266	26-Jul-04	23.0	19.0	5.63	72.3	1076	3.92	8.75

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
B-04-267	4-Aug-04	21.0						
B-04-268	4-Aug-04	21.0						
B-04-269	4-Aug-04	22.0						
B-04-270	4-Aug-04	23	21.8	7.76	123.30	470	3.91	8.05
B-04-271	4-Aug-04	23						
B-04-272	4-Aug-04	24						
B-04-274	5-Aug-04	17						
B-04-275	5-Aug-04	17	16.8	3.82	43.80	358.0	2.11	8.04
B-04-276	5-Aug-04	20	19.8	4.90	58.50	452.0	0.00	8.04
B-04-277	5-Aug-04	25						
B-04-278	5-Aug-04	26						
B-04-279	5-Aug-04	25						
B-04-280	5-Aug-04	25						
B-04-281	6-Aug-04	21						
B-04-282	6-Aug-04	21						
B-04-283	6-Aug-04	21						
B-04-284	6-Aug-04	21						
B-04-285	6-Aug-04	23						
B-04-286	6-Aug-04	23						
B-04-287	6-Aug-04	23						
B-04-288	6-Aug-04	23						
D-04-001	6-Apr-04							
D-04-002	6-Apr-04							
D-04-003	15-Apr-04							
D-04-004	15-Apr-04		5.8					
D-04-005	15-Apr-04							
D-04-006	16-Apr-04		2.8					
D-04-007	16-Apr-04		2.3					
D-04-008	16-Apr-04		3.8					
D-04-009	16-Apr-04							
D-04-010	2-Jun-04	14.0						
D-04-011	2-Jun-04	14.0	12.8			358	7.11	7.74
D-04-012	2-Jun-04	15.0	15.7			461	4.82	8.30

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-04-013	3-Jun-04	14.0	15.2			312	18.56	7.71
D-04-014	3-Jun-04	18.0						
D-04-015	7-Jun-04	14.0						
D-04-016	8-Jun-04	10.0	13.5			339	7.89	7.75
D-04-017	9-Jun-04	12.0	14.6			437	3.06	7.86
D-04-018	9-Jun-04	15.0						
D-04-019	9-Jun-04							
D-04-020	10-Jun-04	10.9	14.8			343	2.09	8.19
D-04-021	14-Jun-04	12.0	14.9			320	1.16	8.18
D-04-022	15-Jun-04	14.0	14.2	8.79	86.2	833	1.38	7.02
D-04-023	15-Jun-04	16.0	12.4	8.82	95.3	656	0.96	7.02
D-04-024	15-Jun-04	14.0						
D-04-025	15-Jun-04							
D-04-026	15-Jun-04							
D-04-027	15-Jun-04	17.0	16.7	7.74	91.5	525	9.59	7.02
D-04-028	16-Jun-04	19.0	15.3	7.10	85.7	937	13.74	8.02
D-04-029	16-Jun-04	21.0	16.4	5.96	73.6	1277	10.68	8.20
D-04-030	22-Jun-04	13.0						
D-04-031	22-Jun-04							
D-04-032	22-Jun-04							
D-04-033	23-Jun-04	13.0	13.4	7.20	83.4	712	2.14	7.80
D-04-034	23-Jun-04	11.0	13.9	7.79	91.6	669	1.36	7.88
D-04-035	23-Jun-04	14.0	17.0	8.59	104.7	720	0.85	8.18
D-04-036	7-Jul-04	14.0	15.0	9.40	112.7	404	5.80	8.12
W-04-001	3-May-04	8.3	8.3	9.36	90.7	331	6.51	8.28
W-04-002	3-May-04	9.6						
W-04-003	3-May-04	10.8						
W-04-004	3-May-04	7.8						
W-04-005	3-May-04	8.1						
W-04-006	3-May-04	15.6	9.5	8.85	86.1	442	8.87	8.27
W-04-007	3-May-04	11.7	10.5	8.27	83.4	279	0.00	7.83
W-04-008	3-May-04	9.3						
W-04-009	4-May-04	2.7	4.3	11.15	96.6	567	0.00	8.55

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-04-010	4-May-04	3.8						
W-04-011	4-May-04	3.8						
W-04-012	4-May-04	5.5						
W-04-013	4-May-04	7.8	9.4	11.02	107.1	344	6.81	8.55
W-04-014	4-May-04	7.6						
W-04-015	4-May-04	8.9						
W-04-016	4-May-04	8.1						
W-04-017	4-May-04	7.1						
W-04-018	4-May-04	7.5						
W-04-019	4-May-04	7.1						
W-04-020	5-May-04	9.3	5.6	11.78	109.2	1018	2.66	8.54
W-04-021	5-May-04	15.4						
W-04-022	5-May-04	14.7						
W-04-023	5-May-04	18.6						
W-04-024	5-May-04	18.4						
W-04-025	5-May-04	18.4						
W-04-026	5-May-04	18.4						
W-04-027	5-May-04	22.6	9.6	11.23	109.7	812	5.76	8.70
W-04-028	5-May-04	12.6						
W-04-029	6-May-04	4.1	5.4	0.79	6.1	434	7.76	7.84
W-04-030	6-May-04	4						
W-04-031	6-May-04	3						
W-04-032	6-May-04	3	6.5	6.07	54.3	795	2.24	7.84
W-04-033	6-May-04	7.9						
W-04-034	6-May-04	7.9						
W-04-035	6-May-04	9.6						
W-04-036	6-May-04	7.1	7.8	8.77	81.6	441	3.27	8.22
W-04-037	6-May-04	9.9						
W-04-038	6-May-04	7.9						
W-04-039	10-May-04	10	7.5	3.47	78.7	404	6.89	8.23
W-04-040	10-May-04	7.1	12.7	9.10	87.3	292	40.67	8.21
W-04-041	11-May-04	3.2	4.6	3.57	27.6	937	3.59	7.42
W-04-042	11-May-04	3.2						

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-04-043	11-May-04	4	5.2	3.75	29.3	635	0.23	7.79
W-04-044	11-May-04	4	6.8	6.83	57.8	323	0.37	7.89
W-04-045	11-May-04	8.3						
W-04-046	11-May-04	8.3						
W-04-047	11-May-04	8.5						
W-04-048	11-May-04	8.5						
W-04-049	11-May-04	8.5	9.7	3.45	30.7	262	3.12	8.24
W-04-050	11-May-04	15	15.3			281	6.94	8.32
W-04-051	12-May-04	1.7	6.6	6.32	51.2	269	1.59	7.92
W-04-052	12-May-04	1.7	6.5			279	0.00	8.00
W-04-053	18-May-04	13.5	12.6	N/A		320	33.03	8.11
W-04-054	18-May-04	23.1	13.1	N/A		402	8.58	8.11
W-04-055	18-May-04	18.8	15.8	N/A		441	0.00	7.87
W-04-056	18-May-04	21.2	18.5	N/A		578	2.85	8.77
W-04-057	18-May-04	25.1	18.3	N/A		321	2.53	8.09
W-04-058	18-May-04	26.0	23.0	N/A		386	10.99	8.74
W-04-059	20-May-04	6.5	8.5	N/A		306	14.03	7.95
W-04-060	20-May-04	7.3	8.2	N/A		390	9.04	7.85
W-04-061	20-May-04	10.5						
W-04-062	20-May-04	10.5						
W-04-063	20-May-04	12.3	14.6	N/A		349	1.50	7.87
W-04-064	20-May-04	12.3						
W-04-065	20-May-04	12.3						
W-04-066	20-May-04	12.3						
W-04-067	20-May-04	12.3						
W-04-068	20-May-04	13.0						
W-04-069	21-May-04	8.3	8.1	N/A		376	41.62	7.85
W-04-070	21-May-04	9.1	9.8	N/A		331	5.63	7.85
W-04-071	21-May-04	9.4	10.1	N/A		394	0.46	7.85
W-04-072	25-May-04	6.8	9.3	10.43	91.5	451	4.18	7.85
W-04-073	25-May-04	6.8						
W-04-074	25-May-04	8.4	9.7	11.11	98.1	398	3.05	7.85
W-04-075	25-May-04	7.5						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-04-076	25-May-04	7.5	11.1	10.80	97.4	433	2.27	7.85
W-04-077	26-May-04	6.9	8.4			376	3.43	7.85
W-04-078	26-May-04	9.1	9.5			277	5.33	7.85
W-04-079	26-May-04	7.5						
W-04-080	26-May-04	7.5						
W-04-081	26-May-04	7.5						
W-04-082	26-May-04	9.9	11.7			375	0.12	7.85
W-04-083	27-May-04	10.7	10.1	9.22	92.7	280	1.47	7.07
W-04-084	27-May-04	12.7	14.6	9.10	106.7	292	0.98	7.07
W-04-085	28-May-04	14.3	11.1	2.85	30.5	266	0.00	7.07
W-04-086	28-May-04	15.0						
W-04-087	28-May-04	15.0	13.3	8.10	91.9	377	0.29	7.98
W-04-088	28-May-04	17.0	14.4	11.01	122.7	324	2.01	7.07
W-04-089	1-Jun-04	13.0						
W-04-090	1-Jun-04	13.3	12.5	5.99	63.9	427	0.64	7.95
W-04-091	1-Jun-04	18.0						
W-04-092	1-Jun-04	23.8	13.8	6.57	75.5	443	0.58	7.95
W-04-093	1-Jun-04	20.0	21.5	9.43	120.0	402	0.00	7.97
W-04-094	2-Jun-04	17.7	12.7	6.77	73.3	269	0.81	7.85
W-04-095	2-Jun-04	18.2	12.2	8.07	87.6	184	0.43	7.95
W-04-096	2-Jun-04	20.7						
W-04-097	2-Jun-04	21.5	14.8	5.15	59.6	323	1.54	7.97
W-04-098	2-Jun-04	22.0						
W-04-099	2-Jun-04	24.7						
W-04-100	2-Jun-04	24.7						
W-04-101	3-Jun-04	11.5						
W-04-102	3-Jun-04	22.0	18.0	6.18	74.9	431	0.16	7.95
W-04-103	3-Jun-04	22.0						
W-04-104	3-Jun-04	22.0						
W-04-105	3-Jun-04	25.0	20.0	6.18	79.5	446	0.60	7.88
W-04-106	0-Jan-00	25.0	22.2	7.48	99.7	455	2.89	7.97
W-04-107	3-Jun-04	25.0						
W-04-108	3-Jun-04	25.0						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-04-109	4-Jun-04	15.0	16.2	5.07	59.4	580	1.92	7.95
W-04-110	4-Jun-04	18.0	18.2	4.31	53.8	530	0.75	7.97
W-04-111	4-Jun-04	25.0	19.4	7.17	91.1	592	6.29	7.97
W-04-112	4-Jun-04	25.0						
W-04-113	5-Jun-04	23.0	19.9	4.80	60.0	633	19.86	7.53
W-04-114	5-Jun-04	25.0	18.5	7.08	88.3	555	2.35	7.95
W-04-115	5-Jun-04	25.0	22.3	6.52	86.0	467	3.52	7.97
W-04-116	5-Jun-04	25.0	22.5	12.67		430	0.64	7.97
W-04-117	7-Jun-04	15.0						
W-04-118	7-Jun-04	15.0						
W-04-119	8-Jun-04	15.0	15.2	7.83	88.6	391	0.23	7.87
W-04-120	8-Jun-04	15.0	16.8	7.13	83.3	394	2.73	7.95
W-04-121	8-Jun-04	15.0	18.3	8.44	102.1	380	0.60	7.95
W-04-122	8-Jun-04	15.0						
W-04-123	8-Jun-04	15.0						
W-04-124	8-Jun-04	15.0	18.3	9.02	107.4	751	14.14	7.95
W-04-125	9-Jun-04	13.0						
W-04-126	9-Jun-04	13.0	13.7	5.53	59.9	416	0.00	7.95
W-04-127	9-Jun-04	15.0						
W-04-128	9-Jun-04	15.0						
W-04-129	9-Jun-04	21.0	14.3	6.40	70.9	408	0.73	7.95
W-04-130	9-Jun-04	21.0						
W-04-131	9-Jun-04	21.0						
W-04-132	9-Jun-04	21.0	19.7	5.29	65.0	499	1.65	7.97
W-04-133	9-Jun-04	21.0						
W-04-134	9-Jun-04	21.0						
W-04-135	9-Jun-04	21.0	20.6	7.83	99.0	443	5.36	7.97
W-04-136	10-Jun-04	15.0						
W-04-137	10-Jun-04	15.0	15.2	4.44	50.7	609	0.28	7.95
W-04-138	10-Jun-04	15.0						
W-04-139	10-Jun-04	18.0						
W-04-140	10-Jun-04	18.0						
W-04-141	10-Jun-04	18.0						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
W-04-142	14-Jun-04	15.0						
W-04-143	14-Jun-04	15.0						
W-04-144	14-Jun-04	15.0						
W-04-145	14-Jun-04	15.0						
W-04-146	14-Jun-04	15.0						
W-04-147	14-Jun-04	18.0						
W-04-148	14-Jun-04	18.0						
W-04-149	14-Jun-04	18.0	16.5	8.25	94.9	271	12.05	7.87
W-04-150	14-Jun-04	18.0						
W-04-151	14-Jun-04	20.0	18.1	13.32		346	8.49	7.87
W-04-152	15-Jun-04	17.0						
W-04-153	15-Jun-04	17.0	14.6	6.99	78.1	309	2.09	7.87
W-04-154	15-Jun-04	18.0						
W-04-155	15-Jun-04	18.0						
W-04-156	16-Jun-04	13.0						
W-04-157	16-Jun-04	18.0	13.5	8.90	96.2	305	118	7.87
W-04-158	16-Jun-04	18.0						
W-04-159	16-Jun-04	19.0	16.8	12.14		372	19.07	7.87
W-04-160	16-Jun-04	22.0						
W-04-161	16-Jun-04	22.0						
W-04-162	16-Jun-04	22.0						
W-04-163	16-Jun-04	22.0						
W-04-164	17-Jun-04	19.0						
W-04-165	17-Jun-04	19.0						
W-04-166	17-Jun-04	22.0	16.8	8.07	93.0	317	6.69	7.04
W-04-167	17-Jun-04	22.0	18.2	6.52	79.4	326	11.75	7.04
W-04-168	17-Jun-04	25.0						
W-04-169	17-Jun-04	23.0						
W-04-170	17-Jun-04	20.0						
W-04-171	17-Jun-04	24.0	20.0	10.61	130.5	269	75	7.04
W-04-172	17-Jun-04	24.0	21.4	8.56	110.5	344	10.69	
W-04-173	18-Jun-04	13.0	13.0	9.76	102.5	625	4.43	
W-04-174	18-Jun-04	15.0	13.5	5.80	62.9	554	3.44	

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
W-04-175	21-Jun-04	15.0	15.0	9.50	104.5	266	2.14	
W-04-176	21-Jun-04	16.0	16.7	10.20	116.5	371	2.72	
W-04-177	21-Jun-04	18.0	16.6	9.02	107.5	348	3.58	
W-04-178	21-Jun-04	19.0	18.0	9.78	114.4	246	0.00	
W-04-179	22-Jun-04	11.0	13.5	4.95	53.6	296	0.00	
W-04-180	22-Jun-04	11.0	12.3	6.04	63.6	252	2.38	
W-04-181	22-Jun-04	14.0	14.6	7.53	83.4	117	2.08	
W-04-182	22-Jun-04	15.0	16.5	6.02	68.5	215	5.91	
W-04-183	22-Jun-04	18.0						
W-04-184	22-Jun-04	16.0	16.7	6.37	73.4	143	1.99	
W-04-185	23-Jun-04	11.0						
W-04-186	23-Jun-04	11.0	11.8	2.76	28.5	324	0.00	
W-04-187	23-Jun-04	10.0	13.4	5.68	63.7	350	1.51	
W-04-188	23-Jun-04	11.0						
W-04-189	24-Jun-04	15.0						
W-04-190	24-Jun-04	15.0						
W-04-191	24-Jun-04	15.0						
W-04-192	24-Jun-04	15.0	10.4	7.75	79.8	130	10.56	
W-04-193	24-Jun-04	15.0	11.6	7.20	77.2	104	19.40	
W-04-194	24-Jun-04	14.0						
W-04-195	25-Jun-04	9.0	11.7	7.24	74.5	235	7.84	
W-04-196	25-Jun-04	9.0						
W-04-197	25-Jun-04	10.0	10.7	8.20	82.5	66	11.43	
W-04-198	29-Jun-04	22.0						
W-04-199	29-Jun-04	22.0						
W-04-200	29-Jun-04	23.0	16.9	5.19	63.2	330	1.95	
W-04-201	29-Jun-04	28.0						
W-04-202	29-Jun-04	32.0	20.7	6.40	85.8	255	1.86	
W-04-203	29-Jun-04	32.0	19.1	5.22	68.5	312	0.00	
W-04-204	29-Jun-04	32.0						
W-04-205	29-Jun-04	32.0						
W-04-206	29-Jun-04	32.0						
W-04-207	5-Jul-04	22.0	15.4	6.59	75.5	227	2.32	7.88

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-04-208	5-Jul-04	23.0	17.4	4.81	60.0	200	0.08	
W-04-209	5-Jul-04	22.0						
W-04-210	5-Jul-04	22.0						
W-04-211	5-Jul-04	22.0	19.1	8.29	102.0	187	0.00	
W-04-212	6-Jul-04	22.0	15.6	8.37	94.7	200	24.88	
W-04-213	6-Jul-04	22.0	17.9	7.02	83.4	164	2.68	
W-04-214	6-Jul-04	22.0						
W-04-215	6-Jul-04	23.0						
W-04-216	6-Jul-04	23.0	18.3	7.47	95.5	117	0.76	
W-04-217	6-Jul-04	24.0	17.5	7.52	95.0	163	216	
W-04-218	6-Jul-04	24.0	21.9	8.31	109.4	207	0.98	
W-04-219	7-Jul-04	19.0						
W-04-220	7-Jul-04	20.0						
W-04-221	7-Jul-04	20.0						
W-04-222	7-Jul-04	20.0						
W-04-223	7-Jul-04	23.0						
W-04-224	7-Jul-04	23.0						
W-04-225	7-Jul-04	24.0	16.9	7.66	91.2	181	17.95	
W-04-226	7-Jul-04	24.0						
W-04-227	7-Jul-04	24.0						
W-04-228	7-Jul-04	25.0						
W-04-229	7-Jul-04	25.0						
W-04-230	7-Jul-04	26.0						
W-04-231	8-Jul-04	24.0	16.6	3.74	43.1	131	0.72	
W-04-232	8-Jul-04	20.0	21.3	8.87	109.9	219	1.05	
W-04-233	13-Jul-04	18.0						
W-04-234	13-Jul-04	20.0	18.0	6.20	73.7	654	0.00	7.99
W-04-235	13-Jul-04	23.0						
W-04-236	13-Jul-04	23.0						
W-04-237	13-Jul-04	25.0	21.4	6.46	83.9	591	1.53	
W-04-238	13-Jul-04	25.0	23.0	6.25	87.2	556	0.81	
W-04-239	13-Jul-04	26.0	23.0	4.46	60.9	536	4.81	
W-04-240	14-Jul-04	25.0						

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
W-04-241	14-Jul-04	26.0						
W-04-242	14-Jul-04	26.0						
W-04-243	14-Jul-04	27.0						
W-04-244	14-Jul-04	27.0						
W-04-245	14-Jul-04	27.0						
W-04-246	14-Jul-04	27.0						
W-04-247	14-Jul-04	27.0						
W-04-248	14-Jul-04	29.0						
W-04-249	14-Jul-04	30.0	22.3	6.35	87.3	556	2.80	8.50
W-04-250	14-Jul-04	30.0	21.2	6.08	83.5	617	11.35	7.80
W-04-251	15-Jul-04	20.0						
W-04-252	15-Jul-04	20.0	19.0	6.36	84.1	511	1.63	7.77
W-04-253	15-Jul-04	28.0	19.7	3.62	51.7	619	1.29	7.42
W-04-254	15-Jul-04	28.0	21.8	6.25	90.4	331	2.59	7.81
W-04-255	15-Jul-04	28.0	24.3	6.26	92.2	222	0.85	7.74
W-04-256	20-Jul-04	30.0	21.8	5.78	80.1	660	4.81	7.95
W-04-257	21-Jul-04	21.0						
W-04-258	21-Jul-04	21.0						
W-04-259	21-Jul-04	21.0						
W-04-260	21-Jul-04	20.0	22.8	2.48	31.7		0.00	
W-04-261	21-Jul-04	18.0						
W-04-262	22-Jul-04	16.0	16.1	5.23	59.1		0.62	
W-04-263	22-Jul-04	20.0						
W-04-264	22-Jul-04	20.0	19.7	6.08	73.9		22.12	
W-04-265	22-Jul-04	20.0	20.7	6.05	75.1		2.89	
W-04-266	22-Jul-04	20.0	19.7	7.31	90.7		1.78	
W-04-267	22-Jul-04	18.0						
W-04-268	22-Jul-04	18.0						
W-04-269	22-Jul-04	18.0	18.0	8.16	98.5		0.43	
W-04-270	22-Jul-04	20.0						
W-04-271	23-Jul-04	11.0	13.5	3.11	32.9		0.01	
W-04-272	23-Jul-04	12.0						
W-04-273	23-Jul-04	12.0						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-04-274	23-Jul-04	17.0	17.3	8.78	101.5		2.37	
W-04-275	3-Aug-04	24.0						
W-04-276	3-Aug-04	24.0						
W-04-277	3-Aug-04	24.0	22.1	9.21	116.8		4.30	
W-04-278	3-Aug-04	24.0						
W-04-279	3-Aug-04	24.0						
W-04-280	3-Aug-04	25.0						
W-04-281	3-Aug-04	26.0						
W-04-282	3-Aug-04	26.0						
W-04-283	3-Aug-04	26.0						
W-04-284	3-Aug-04	26.0						
W-04-285	3-Aug-04	26.0						
W-04-286	3-Aug-04	26.0	25.9	9.18	124.6		19.64	
W-04-287	3-Aug-04	26.0	25.7	7.32	99.9		24.24	
W-04-288	4-Aug-04	19.0						
W-04-289	4-Aug-04	19.0	21.3	6.75	84.6		14.76	
W-04-290	4-Aug-04	23.0						
W-04-291	4-Aug-04	23.0						
W-04-292	4-Aug-04	23.0						
W-04-293	4-Aug-04	24.0						
W-04-294	4-Aug-04	24.0						
W-04-295	4-Aug-04	24.0						
W-04-296	4-Aug-04	24.0						
W-04-297	5-Aug-04	13.0	18.6	8.09	95.5		10.84	
W-04-298	5-Aug-04	22.0	20.6	10.71	133.0		5.12	
W-04-299	5-Aug-04	23.0	21.5	9.08	114.4		3.44	
W-04-300	5-Aug-04	24.0						
W-04-301	5-Aug-04	25.0						
X-04-001	5-May-04	6	7.3	10.00	97.8	882	24.02	7.98
X-04-002	5-May-04	8	8.4	9.66	97.4	907	4.99	7.99
X-04-003	5-May-04	10						
X-04-004	5-May-04	10						
X-04-005	5-May-04	10	10.2	9.24	96.2	908	2.38	7 - 7.5*

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (μS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-04-006	6-May-04	6						
X-04-007	6-May-04	6						
X-04-008	6-May-04	6						
X-04-009	6-May-04	6						
X-04-010	6-May-04	6						
X-04-011	6-May-04	6						
X-04-012	6-May-04	7						
X-04-013	6-May-04	10						
X-04-014	6-May-04	10	10.1	8.99	94.2	945	15.04	7 - 7.5*
X-04-015	6-May-04	10						
X-04-016	6-May-04	10						
X-04-017	6-May-04	10						
X-04-018	6-May-04	10						
X-04-019	6-May-04	10						
X-04-020	6-May-04	10						
X-04-021	6-May-04	10	12.1			761	7.31	7.88
X-04-022	6-May-04	7						
X-04-023	10-May-04	6	10.2	7.94	82.5	456	21.41	7.46
X-04-024	10-May-04	6						
X-04-025	10-May-04	6						
X-04-026	10-May-04	6	10.6	8.85	91.1	460	30.29	7.50
X-04-027	10-May-04	6						
X-04-028	10-May-04	6						
X-04-029	10-May-04	6						
X-04-030	10-May-04	8						
X-04-031	10-May-04	8	12.0	10.19	106.1	441	16.99	7.37
X-04-032	10-May-04	10						
X-04-033	10-May-04	10						
X-04-034	10-May-04	10						
X-04-035	10-May-04	10						
X-04-036	14-May-04	2						
X-04-037	14-May-04	2	4.0	11.55	101.1	1562	9.61	
X-04-038	14-May-04	3						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-04-039	14-May-04	3						
X-04-040	14-May-04	3						
X-04-041	14-May-04	3	7.4	9.40	90	1786	16.91	7.06
X-04-042	14-May-04	2	5.5	10.10	89.9	1191	231	6.60
X-04-043	17-May-04	10	12.3	9.46	104.2	616	0.68	
X-04-044	17-May-04	13	14.9	10.60	122.9	411	0.00	7.26
X-04-045	17-May-04	16						
X-04-046	17-May-04	13	18.6	9.89	123.3	435	0.00	7.74
X-04-047	17-May-04	13						
X-04-048	18-May-04	16	11.9	7.11	77.6	808	0.78	
X-04-049	18-May-04	21	13.6	4.04	47.2	542	0.00	7.07
X-04-050	18-May-04	23						
X-04-051	18-May-04	25	16.7	7.55	91.4	490	6.74	
X-04-052	19-May-04	17	12.6			656	1.40	7.42
X-04-053	20-May-04	5	9.9	8.75	90	683	0.37	6.69
X-04-054	20-May-04	5	10.2	8.69	90.2	685	0.00	7.56
X-04-055	20-May-04	6						
X-04-056	20-May-04	7	12.0	10.07	106.6	735	0.00	7.31
X-04-057	20-May-04	10						
X-04-058	20-May-04	10						
X-04-059	20-May-04	11						
X-04-060	20-May-04	11						
X-04-061	20-May-04	13	18.0			623	0.00	7.94
X-04-062	20-May-04	13						
X-04-063	20-May-04	13						
X-04-064	20-May-04	13						
X-04-065	21-May-04	4	10.9	7.18	75.7	556	6.22	7.37
X-04-066	21-May-04	5	10.3	6.91	70	517	0.00	7.13
X-04-067	25-May-04	6	11.5	8.95	96.2	572	2.14	7.40
X-04-068	25-May-04	5	11.1	8.44	88.2	478	17.67	7.55
X-04-069	25-May-04	6	11.2	9.98	104.3	561	0.00	6.50
X-04-070	25-May-04	6						
X-04-071	25-May-04	6	10.6	9.55	98.6	444	0.00	7.53

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
X-04-072	25-May-04	6	10.7	9.96	103.3	450	0.00	7.68
X-04-073	25-May-04	9						
X-04-074	26-May-04	7	9.8	6.07	64.8	461	0.00	7.08
X-04-075	26-May-04	6						
X-04-076	26-May-04	6						
X-04-077	26-May-04	10	10.9	8.47	89.7	585	3.51	7.55
X-04-078	26-May-04	7	9.8	10.73	113.3	569	7.06	7.77
X-04-079	26-May-04	7						
X-04-080	26-May-04	8	11.6	10.70	111.4	483	44.61	7.15
X-04-081	27-May-04	10	10.2	8.64	87.8	451	32.28	
X-04-082	27-May-04	10	11.8	8.98	93.4	546	0.76	7.20
X-04-083	27-May-04	10						
X-04-084	27-May-04	11	17.5	13.46		1281	0.00	7.84
X-04-085	27-May-04	15						
X-04-086	27-May-04	15						
X-04-087	27-May-04	15						
X-04-088	27-May-04	15	17.0	10.29	136.8	534	0.00	7.73
X-04-089	27-May-04	13						
X-04-090	27-May-04	13	11.9	7.94	90.4	320	3.32	7.03
X-04-091	28-May-04	11	10.0	4.77	59.8	653	0.80	7.22
X-04-092	28-May-04	12	12.6	9.81	112.8	928	3.27	7.38
X-04-093	28-May-04	15						
X-04-094	28-May-04	15	16.1			1022	7.06	8.05
X-04-095	1-Jun-04	13	12.4	4.96	54.6	426	32.11	
X-04-096	1-Jun-04	13						
X-04-097	1-Jun-04	15	14.0	5.62	70.3	267	151	6.94
X-04-098	1-Jun-04	16	15.3	5.82	68.2	142	254	6.54
X-04-099	1-Jun-04	16	16.5	5.63	70.9	100	> 300	6.69
X-04-100	1-Jun-04	19						
X-04-101	1-Jun-04	19	21.0	6.88	91.6	132	254	7.06
X-04-102	2-Jun-04	13	15.7	7.48	88.6	414	3.30	7.29
X-04-103	2-Jun-04	16	18.2	7.26	87.6	411	9.18	7.52
X-04-104	2-Jun-04	20						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-04-105	2-Jun-04	20						
X-04-106	3-Jun-04	19	15.0	6.22	81.3	674	112	7.46
X-04-107	3-Jun-04	20	19.8	7.11	97.6	1055	12.75	6.66
X-04-108	3-Jun-04	20						
X-04-109	3-Jun-04	20	23.0	4.96	72.1	993	0.00	7.42
X-04-110	4-Jun-04	20	17.1	6.72	91.5	613	0.00	7.55
X-04-111	4-Jun-04	20						
X-04-112	4-Jun-04	16	19.6	7.04	96.6	634	0.00	7.48
X-04-113	7-Jun-04	15	18.1	6.86	92.7	596	0.00	7.46
X-04-114	7-Jun-04	25	18.8	5.96	80.6	789	9.93	7.63
X-04-115	7-Jun-04	25	21.1	7.26	102.4	888	0.00	8.03
X-04-116	8-Jun-04	9	13.8	4.34	56.2	618	0.00	7.43
X-04-117	8-Jun-04	10						
X-04-118	8-Jun-04	11	16.1	7.33	97.3	519	4.49	8.05
X-04-119	8-Jun-04	13	15.2	6.90	87.9	940	0.00	7.83
X-04-120	8-Jun-04	15	16.0	6.85	89.4	799	0.00	7.92
X-04-121	8-Jun-04	17	16.9	7.67	102.8	768	0.00	7.88
X-04-122	9-Jun-04	9	14.3	6.22	79.7	742	3.63	7.38
X-04-123	9-Jun-04	13	16.2	7.28	92.1	748	3.80	7.46
X-04-124	9-Jun-04	15	16.8	8.38	110.1	825	1.75	7.60
X-04-125	10-Jun-04	13						
X-04-126	10-Jun-04	13	16.6	5.03	60.8	708	0.00	7.00
X-04-127	10-Jun-04	13	17.0	6.59	78.5	577	39.44	7.25
X-04-128	14-Jun-04	10	15.7	9.69	111.5	522	0.00	8.19
X-04-129	14-Jun-04	11	13.2	7.93	88.2	720	33.92	7.78
X-04-130	14-Jun-04	11	16.1	9.88	117.7	611	0.00	8.09
X-04-131	14-Jun-04	12						
X-04-132	14-Jun-04	11	15.4	5.75	67.6	651	13.48	7.35
X-04-133	15-Jun-04	11	14.2	8.03	90.1	932	0.00	7.73
X-04-134	15-Jun-04	11						
X-04-135	15-Jun-04	11						
X-04-136	15-Jun-04	10						
X-04-137	16-Jun-04	20	16.3	8.40	106.8	686	0.28	7.70

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-04-138	16-Jun-04	23	19.0	6.76	90.6	778	0.13	7.59
X-04-139	16-Jun-04	23	20.5	5.89	83.3	507	0.00	6.97
X-04-140	16-Jun-04	23						
X-04-141	17-Jun-04	20	17.8	6.69	93.9	479	5.30	7.74
X-04-142	17-Jun-04	20	15.3	7.99	99.7	709	0.00	7.65
X-04-143	17-Jun-04	20						
X-04-144	17-Jun-04	20						
X-04-145	17-Jun-04	23	20.3	6.63	90	516	0.00	7.61
X-04-146	17-Jun-04	13						
X-04-147	18-Jun-04	10	11.5	7.46	84.2	596	0.00	7.36
X-04-148	18-Jun-04	14						
X-04-149	21-Jun-04	13	15.3	8.28	97.4	484	3.74	7.72
X-04-150	21-Jun-04	13	14.9	10.07	117.9	607	0.00	7.65
X-04-151	21-Jun-04	17	15.5	7.29	86.7	450	5.19	7.27
X-04-152	22-Jun-04	12	13.7	7.27	83.9	454	1.06	7.53
X-04-153	22-Jun-04	14	15.3	4.43	52.8	438	0.00	7.11
X-04-154	22-Jun-04	12	17.5	7.63	96.2	468	0.00	7.64
X-04-155	23-Jun-04	10	14.5	8.77	97	498	0.14	6.72
X-04-156	23-Jun-04	10						
X-04-157	23-Jun-04	11	16.7	9.05	106.9	488	0.00	7.94
X-04-158	23-Jun-04	11						
X-04-159	23-Jun-04	11	15.8	10.85	126.2	562	0.00	8.01
X-04-160	24-Jun-04	9	12.5	9.04	99.2	435	0.00	6.60
X-04-161	24-Jun-04	9	13.0	9.95	108.9	469	0.00	7.85
X-04-162	24-Jun-04	9	13.2	8.89	95.3	466	4.05	7.85
X-04-163	25-Jun-04	10	11.7	5.53	58.6	594	0.00	7.11
X-04-164	25-Jun-04	10	12.2	7.77	83.2	466	0.00	
X-04-165	28-Jun-04	26						
X-04-166	28-Jun-04	26						
X-04-167	28-Jun-04	26	20.0	4.41	55.2	639	112	7.37
X-04-168	28-Jun-04	26	16.3	10.80	128	738	0.00	7.18
X-04-169	28-Jun-04	26	24.3	9.41	126.5	440	0.00	8.01
X-04-170	29-Jun-04	21	19.8	5.07	63.3	417	0.00	7.47

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-04-171	29-Jun-04	24	20.4	6.52	83.2	478	0.29	7.52
X-04-172	29-Jun-04	27	20.4	10.75	139.9	640	0.00	7.68
X-04-173	29-Jun-04	25						
X-04-174	29-Jun-04	26						
X-04-175	29-Jun-04	30	25.8	9.29	131.4	540	3.19	7.13
X-04-176	30-Jun-04	15	17.5	3.93	47.2	634	0.00	6.83
X-04-177	30-Jun-04	15	18.5	7.49	92.9	460	20.51	7.99
X-04-178	1-Jul-04	17	17.6	5.28	64.2	980	29.69	8.54
X-04-179	1-Jul-04	20	16.9	5.88	68.7	918	8.72	6.84
X-04-180	2-Jul-04	17						
X-04-181	2-Jul-04	17	17.7	5.87	69	327	0.00	7.15
X-04-182	5-Jul-04	15	15.3	2.63	29.9	1419	4.54	6.79
X-04-183	5-Jul-04	15						
X-04-184	5-Jul-04	20	20.2	5.97	77.6	497	0.00	7.23
X-04-185	5-Jul-04	20	24.6	11.51	157.5	375	12.14	6.80
X-04-186	5-Jul-04	17	22.6	10.36	138.9	659	0.00	8.09
X-04-187	6-Jul-04	15	16.6	6.48	76.5	539	1.22	7.36
X-04-188	6-Jul-04	20						
X-04-189	6-Jul-04	18						
X-04-190	6-Jul-04	20	16.8	4.39	59	731	>300	7.35
X-04-191	6-Jul-04	23						
X-04-192	6-Jul-04	25	23.4	11.46	154.6	648	3.98	8.28
X-04-193	7-Jul-04	16						
X-04-194	7-Jul-04	20	18.3	5.55	67.4	991	1.81	7.58
X-04-195	7-Jul-04	25	24.5	8.34	115.8	564	0.00	8.01
X-04-196	7-Jul-04	27	12.6	5.95	63.5	785	32.59	7.05
X-04-197	7-Jul-04	27						
X-04-198	7-Jul-04	27	21.5	11.49	154.1	703	0.00	8.40
X-04-199	8-Jul-04	15	19.1	5.08	61.8	633	5.00	7.50
X-04-200	8-Jul-04	17	18.5	3.03	36.6	1698	228	8.34
X-04-201	8-Jul-04	17	18.9	9.49	123.4	549	2.73	6.70
X-04-202	8-Jul-04	16	15.7	8.60	102.7	806	0.00	7.39
X-04-203	13-Jul-04	16	20.9	3.78	51	605	0.00	7.36

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
X-04-204	13-Jul-04	15	22.2	3.03	41.8	382	0.00	6.80
X-04-205	13-Jul-04	17	22.2	6.42	89.6	231	0.04	7.31
X-04-206	13-Jul-04	22	20.8	5.83	80.8	350	0.00	7.24
X-04-207	13-Jul-04	26	23.4	3.93	56.4	170	0.00	6.68
X-04-208	14-Jul-04	23	17.8	4.50	59.7	157	0.00	6.58
X-04-209	14-Jul-04	26	19.6	6.48	84.5	120	0.00	6.79
X-04-210	14-Jul-04	25	21.9	6.40	90.1	363	0.00	7.36
X-04-211	14-Jul-04	27						
X-04-212	15-Jul-04	26	22.8	4.69	62	404	0.00	7.34
X-04-213	15-Jul-04	27	24.6	6.61	91.3	533	0.00	7.07
X-04-214	15-Jul-04	20						
X-04-215	15-Jul-04	23	24.7	6.62	91.4	555	0.00	7.51
X-04-216	16-Jul-04	17	12.9	2.55	28	412	0.00	6.73
X-04-217	16-Jul-04	21	20.5	4.67	60.3	661	0.00	7.11
X-04-218	16-Jul-04	21						
X-04-219	16-Jul-04	21						
X-04-220	16-Jul-04	23						
X-04-221	16-Jul-04	24	24.3	7.37	101	604	30.79	6.86
X-04-222	19-Jul-04	30	27.5	7.48	124	332	0.73	7.91
X-04-223	20-Jul-04	20	21.6	4.08	61.4	512	0.00	7.17
X-04-224	20-Jul-04	20						
X-04-225	20-Jul-04	20	23.8	4.58	69.5	561	0.00	7.46
X-04-226	20-Jul-04	23						
X-04-227	20-Jul-04	26	21.3	6.18	94	392	0.00	7.53
X-04-228	21-Jul-04	16	19.3	2.61	38.3	458	3.63	7.06
X-04-229	21-Jul-04	19						
X-04-230	21-Jul-04	16						
X-04-231	21-Jul-04	16						
X-04-232	22-Jul-04	15	14.9	4.40	56.8	542	0.00	6.85
X-04-233	22-Jul-04	15						
X-04-234	22-Jul-04	16						
X-04-235	22-Jul-04	16						
X-04-236	22-Jul-04	17						

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-04-237	22-Jul-04	16						
X-04-238	22-Jul-04	17	20.2	7.79	109.3	923	0.00	7.67
X-04-239	22-Jul-04	21	22.7	6.56	95.9	659	7.81	7.86
X-04-240	26-Jul-04	25						
X-04-241	26-Jul-04	25						
X-04-242	26-Jul-04	25						
X-04-243	26-Jul-04	25						
X-04-244	26-Jul-04	26						
X-04-245	26-Jul-04	27						
X-04-246	26-Jul-04	27						
X-04-247	28-Jul-04	16	20.2	7.48	96.3	925	0.00	7.46
X-04-248	28-Jul-04	16						
X-04-249	28-Jul-04	18	23.0	4.89	64.1	867	0.00	7.31
X-04-250	28-Jul-04	18						
X-04-251	28-Jul-04	17	23.7	8.28	112.2	856	58	8.02
X-04-252	28-Jul-04	15						
X-04-253	30-Jul-04	14	20.3	7.24	89.3	736	40.07	7.97
X-04-254	30-Jul-04	14						
X-04-255	30-Jul-04	15	20.5	7.62	96.7	521	33.98	7.73
X-04-256	3-Aug-04	23	19.8			451	37.86	6.68
X-04-257	3-Aug-04	22	20.8			428	15.69	7.54
X-04-258	4-Aug-04	23	24.2	8.70	118.6	415	0.00	7.86
X-04-259	5-Aug-04	25	19.7	6.73	84.7	425	18.71	7.55
X-04-260	5-Aug-04	25	21.6	7.03	96.9	370	10.94	7.75
X-04-261	6-Aug-04	23						
X-04-262	6-Aug-04	21	21.7	7.54	97.8	460	3.58	7.67
X-04-263	6-Aug-04	22						
D-05-001	31-Dec-37	4	2.0					
D-05-002	31-Dec-37	4	2.0					
D-05-003	31-Dec-37	6	2.0					
D-05-004	30-May-84	8	9.0					
D-05-005	30-May-84	10	9.0					
D-05-006	30-May-84	10	9.0					

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
D-05-007	30-May-84	10	9.0					
D-05-008	30-May-84	11	9.0					
D-05-009	30-May-84	8	9.0					
D-05-010	4-Oct-28	2		11.16	111.8	484	4.11	7.50
D-05-011	12-Jan-29	18.7	18.2	6.16	75.7	616	78	7.48
D-05-012	24-Jan-48							
D-05-013	4-Jul-49	24	24.1	6.20	87.9	467	46.51	8.20
D-05-014	4-Jul-49	24	24.1	8.86	130.9	631	8.84	8.66
D-05-015	4-Jul-49	26	23.6	8.54	123.8	757	39.29	8.54
D-05-016	4-Jul-49	26						
D-05-017	19-Nov-76	23						
D-05-018	3-May-84	27.4	24.0	5.31	77.5	560	3.65	7.01
D-05-019	3-May-84	25	26.8	6.46	94.1	579	2.05	7.01
D-05-020	19-Sep-11	23	21.0	3.47	44.7	387	4.01	7.50
D-05-021	19-Sep-11							
D-05-022	19-Sep-11							
D-05-023	7-Apr-40	20	18.7	8.50	99.8	699	18.53	8.30
D-05-024	7-Apr-40	22						
D-05-025	24-Aug-67	19	18.4	5.29	61.3	626	12.17	8.59
D-05-026	29-Jul-23	20	19.9	3.71	44.3	416	17.95	7.50
D-05-027	29-Jul-23	20	19.9	3.71	44.3	416	17.95	7.50
W-05-001	2-May-05	4	4.1	12.18	110	434	0.00	
W-05-002	2-May-05	5	7.4	13.04		405	11.50	6.50
W-05-003	2-May-05	4						
W-05-004	2-May-05	4						
W-05-005	2-May-05	4						
W-05-006	2-May-05	4						
W-05-007	2-May-05	4						
W-05-008	2-May-05	5						
W-05-009	2-May-05	6	11.5	11.65	125	624	11.04	6.50
W-05-010	2-May-05	5						
W-05-011	2-May-05	6						
W-05-012	3-May-05	5	5.7	9.39	86.6	779	6.02	7.00

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-05-013	3-May-05	7	9.0	10.08	102.3	1514	10.44	7.00
W-05-014	3-May-05	7	7.2	11.97	147.5	1563	1.82	7.00
W-05-015	3-May-05	8						
W-05-016	3-May-05	8	12.8	11.82	132.5	1519	7.19	7.00
W-05-017	4-May-05	4	7.7	10.32	103	1550	1.79	7.00
W-05-018	4-May-05	5						
W-05-019	4-May-05	10	9.8	10.44	106	1484	2.39	7.00
W-05-020	4-May-05	11	9.3	12.28	127.2	1425	0.00	7.25
W-05-021	4-May-05	12						
W-05-022	4-May-05	10						
W-05-023	5-May-05	10	13.0	8.22	90.1	568	1.35	7.00
W-05-024	5-May-05	14	14.7	11.41	129.8	770	2.14	7.50
W-05-025	5-May-05	14						
W-05-026	5-May-05	15						
W-05-027	5-May-05	14	15.7	4.94	54.7	630	0.00	6.50
W-05-028	5-May-05	15	14.7	13.46		677	4.05	7.00
W-05-029	5-May-05	18						
W-05-030	5-May-05	8	11.2	2.46	25.4	798	0.00	6.50
W-05-031	6-May-05	9						
W-05-032	6-May-05	10						
W-05-033	6-May-05	13						
W-05-034	6-May-05	18	11.5	8.15	82.8	487	5.32	6.50
W-05-035	9-May-05	18						
W-05-036	9-May-05	4	12.3	3.65	38.7	355	68	
W-05-037	9-May-05	7	11.9	3.75	38.8	322	> 300	
W-05-038	9-May-05	8	12.6	3.41	36	640	15.71	6.50
W-05-039	9-May-05	8						
W-05-040	10-May-05	8						
W-05-041	10-May-05	7	9.9	8.15	80.9	486	2.75	6.50
W-05-042	10-May-05	5						
W-05-043	10-May-05	5	9.9	13.08		514	3.80	6.50
W-05-044	10-May-05	4						
W-05-045	10-May-05	5	10.0	10.52	105.2	613	16.06	

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-05-046	11-May-05	-1	5.4	10.44	95.3	716		6.50
W-05-047	11-May-05	0	5.4			1495	5.33	6.50
W-05-048	11-May-05	2	9.5			349	14.26	7.25
W-05-049	11-May-05	4	9.4	12.63	123.6	883	0.00	6.50
W-05-050	11-May-05	7	10.3	12.23	118.4	682	3.73	7.00
W-05-051	12-May-05	7	10.4	11.88	118.8	953	0.00	7.00
W-05-052	12-May-05	7	9.5	9.57	92.6	541	0.00	
W-05-053	12-May-05	5	10.4	10.43	110	606	2.13	6.50
W-05-054	12-May-05	8	13.4	12.46	138.4	512	14.55	6.50
W-05-055	16-May-05	12	15.4	10.21	114.4	631	0.55	7.00
W-05-056	16-May-05	15	14.4	7.08	79.2	1026	1.69	6.50
W-05-057	16-May-05	8	12.4	8.04	86.6	784	7.41	6.50
W-05-058	17-May-05	12	14.4	6.91	76.6	793	0.93	7.00
W-05-059	17-May-05	15	15.4	10.57	110.5	891	0.00	7.25
W-05-060	18-May-05	10	4.7	8.41	93	1184	0.00	6.50
W-05-061	17-May-05	8						
W-05-062	17-May-05	15	22.5	10.53	147.4	>2000	2.78	8.75
W-05-063	18-May-05	17	16.0	7.74	106.4	853	0.00	7.25
W-05-064	18-May-05	17						
W-05-065	18-May-05	20	23.7	7.50	106.1	1780	0.00	8.00
W-05-066	18-May-05	20	19.2	6.25	83.4	895	1.00	7.50
W-05-067	19-May-05	16						
W-05-068	19-May-05	18						
W-05-069	19-May-05	20	19.8	3.39	45.4	1145	0.22	6.50
W-05-070	19-May-05	20						
W-05-071	20-May-05	17	16.6	8.21	104	488	2.67	7.00
W-05-072	20-May-05	20	22.9	8.80	124.5	629	19.91	7.00
W-05-073	24-May-05	15	17.3	5.69	51.5	1119	0.53	6.50
W-05-074	24-May-05	18						
W-05-075	24-May-05	18						
W-05-076	24-May-05	18	16.8	6.14	77.9	544	7.03	6.50
W-05-077	24-May-05	17	16.8	4.17	53.1	413	0.42	7.00
W-05-078	25-May-05	15	16.5	7.84	89.1	638	30.31	6.50

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-05-079	25-May-05	16	20.5	9.64	119.2	435	92	6.50
W-05-080	25-May-05	17						
W-05-081	25-May-05	17	19.5			511	1.31	7.00
W-05-082	25-May-05	15	17.7	5.15	60.5	1004	23.21	
W-05-083	26-May-05	12	14.1	6.99	75.8	1336	5.26	6.50
W-05-084	26-May-05	16						
W-05-085	26-May-05	16	15.7	10.03	112.9	1667	1.30	8.25
W-05-086	26-May-05	15	14.2	8.16	88.9	>2000	0.00	7.00
W-05-087	26-May-05	10	10.3	9.36	95.4	821	0.00	6.50
W-05-088	27-May-05	11						
W-05-089	27-May-05	12						
W-05-090	27-May-05	12						
W-05-091	27-May-05	10						
W-05-092	27-May-05	12						
W-05-093	29-May-05	14	17.1	6.18	71.8	596	1.99	7.00
W-05-094	31-May-05	18	17.3	5.31	63.8	1683	7.52	7.50
W-05-095	31-May-05	20						
W-05-096	31-May-05	20	18.5	6.86	82	1751	15.58	7.50
W-05-097	31-May-05	20						
W-05-098	31-May-05	24						
W-05-099	31-May-05	20	18.8	9.12	114.1	1099	11.87	7.00
W-05-100	31-May-05	21						
W-05-101	1-Jun-05	14	14.4	5.12	58.5	1117	2.85	7.50
W-05-102	1-Jun-05	14	13.3	7.90	87.9	601	3.19	6.50
W-05-103	1-Jun-05	14	17.4	5.39	65.3	759	3.11	7.50
W-05-104	1-Jun-05	15	16.7	7.50	90.2	603	3.56	
W-05-105	1-Jun-05	16	16.8	7.28	85.5	401	7.18	7.00
W-05-106	2-Jun-05	14	15.4	5.75	67.1	525	4.65	6.50
W-05-107	3-Jun-05	12						
W-05-108	3-Jun-05	14						
W-05-109	3-Jun-05	14						
W-05-110	4-Jun-05	20	19.4	5.09	62.2	1129	9.01	8.00
W-05-111	4-Jun-05	20						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (^{o}C)	Water Temp. (^{o}C)	Dissolved Oxygen		Conductivity (μS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-05-112	4-Jun-05	20	19.9	10.59	131.4	1421	20.53	8.75
W-05-113	6-Jun-05	15	13.7			546	16.43	8.00
W-05-114	6-Jun-05	15	14.6	10.45	115	486	5.37	7.00
W-05-115	7-Jun-05	16	15.0	7.04	82.4	997	3.78	7.00
W-05-116	7-Jun-05	15	13.4	6.66	74.8	1141	30.47	7.50
W-05-117	7-Jun-05	14	15.4	6.80	79.1		9.71	7.25
W-05-118	8-Jun-05	14	9.8	7.90	87.8	1023	4.30	7.50
W-05-119	8-Jun-05	14	13.0	7.65	85.4	406	20.22	7.00
W-05-120	9-Jun-05	14	14.1	6.35	72.2		88	6.50
W-05-121	9-Jun-05	15	13..9	5.62	60.4		72	6.50
W-05-122	9-Jun-05	15	15.5	12.19	135.5		53	8.50
W-05-123	14-Jun-05	15	17.0	3.00	34.6	38	172	7.00
W-05-124	14-Jun-05							
W-05-125	14-Jun-05							
W-05-126	14-Jun-05	16	11.6	5.40	53.5	722	0.27	7.50
W-05-127	14-Jun-05							
W-05-128	14-Jun-05	14	18.3	4.92	58.2	261	0.00	7.00
W-05-129	15-Jun-05	15	16.2	5.73	64.5			7.00
W-05-130	15-Jun-05	16	17.5	3.78	42.8		0.00	7.00
W-05-131	15-Jun-05	22	20.5	12.67			0.00	7.50
W-05-132	15-Jun-05	22	20.0	7.58	83.1	764	0.00	7.00
W-05-133	15-Jun-05	22						
W-05-134	15-Jun-05	22	21.4	8.16	97.1	807	0.00	7.25
W-05-135	16-Jun-05	23						
W-05-136	16-Jun-05	25	19.7	3.94	41.1		0.00	
W-05-137	16-Jun-05	25	17.8	7.08	74.4	489	0.00	7.00
W-05-138	16-Jun-05	25	21.4	5.81	76.9	481	0.00	6.50
W-05-139	17-Jun-05	24	19.1	8.09	101.2	253	0.00	7.25
W-05-140	17-Jun-05	25	19.8	7.48	96.2	482	0.00	6.50
W-05-141	20-Jun-05	24	24.6	9.20	128.8	1831	0.00	7.50
W-05-142	20-Jun-05	25						
W-05-143	20-Jun-05	28						
W-05-144	20-Jun-05	27						

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
W-05-145	20-Jun-05	28	18.4	7.68	109.9	1348	0.00	8.00
W-05-146	21-Jun-05	21	24.0	4.83	66.8	>2000	0.00	8.00
W-05-147	21-Jun-05	24						
W-05-148	21-Jun-05	25	24.8	3.87	53.5	>2000	0.00	7.00
W-05-149	22-Jun-05	20	18.5	8.13	101.6	431		7.25
W-05-150	22-Jun-05	22	21.2	6.20	81.7	>2000		8.00
W-05-151	22-Jun-05	22	22.6	8.23	111	1284		7.50
W-05-152	22-Jun-05	25	22.9	8.13	113.3	936		7.75
W-05-153	22-Jun-05	27						
W-05-154	22-Jun-05	28	22.9	7.34	113.5	801		8.00
W-05-155	23-Jun-05	18						
W-05-156	23-Jun-05	20						
W-05-157	23-Jun-05	20	21.9	7.05	95	200		7.50
W-05-158	23-Jun-05	19						
W-05-159	23-Jun-05	20	21.8	4.57	62.2	809		7.00
W-05-160	23-Jun-05	22	20.9	1.21	16.5	993		7.00
W-05-161	23-Jun-05	22	22.4	3.66	53.3	594		7.00
W-05-162	23-Jun-05	27	24.2	4.92	71.5	1074		6.50
W-05-163	24-Jun-05	25	22.7	6.88	101.2	770		7.00
W-05-164	27-Jun-05	21	18.0	5.88	75.3	295		6.50
W-05-165	27-Jun-05	20	18.2	6.59	84.2	306		
W-05-166	27-Jun-05	18	19.2	3.28	42.3	251		6.50
W-05-167	28-Jun-05	20	13.8	4.01	50.4	271		6.50
W-05-168	11-Jul-05	24	27.7	7.70	112.4	1613	7.56	7.39
W-05-169	12-Jul-05	27	23.4	5.61	84	838	0.00	8.21
W-05-170	12-Jul-05	29	20.0	8.95	119.6	1307	0.00	7.41
W-05-171	12-Jul-05	30	25.3	5.97	94.8	658	36.10	8.15
W-05-172	12-Jul-05	30						
W-05-173	12-Jul-05	30	27.1	5.53	87.7	444	3.94	6.86
W-05-174	18-Jul-05	18						
W-05-175	18-Jul-05	18						
W-05-176	18-Jul-05	21	19.8	5.88	73.3	320	3.41	7.36
W-05-177	19-Jul-05	22	17.9	5.19	70.4	319	1.30	7.34

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-05-178	19-Jul-05	22	20.0	5.26	64	360	3.78	7.52
W-05-179	19-Jul-05	24						
W-05-180	19-Jul-05	23	21.4	6.08	83.1	398	4.18	7.86
W-05-181	19-Jul-05	25	23.5	7.07	94	420	2.20	7.80
W-05-182	19-Jul-05	26	23.0	6.52	80.7	389	0.00	8.03
W-05-183	19-Jul-05	26	22.9	7.28	96.4	395	0.00	7.97
W-05-184	20-Jul-05	22						
W-05-185	20-Jul-05	24	19.7	3.19	40.2	488	1.65	7.41
W-05-186	25-Jul-05	22						
W-05-187	25-Jul-05	24	18.2	1.13	13.9	46	3.90	
W-05-188	25-Jul-05	21	20.3	5.19	76.8	204	34.55	7.02
W-05-189	26-Jul-05	10	15.4	4.52	51.3	376	0.23	7.29
W-05-190	26-Jul-05	15	15.9	5.71	64.9	491	9.61	7.58
W-05-191	26-Jul-05	21	20.8	10.94	136	400	3.16	8.41
W-05-192	26-Jul-05	23						
W-05-193	26-Jul-05	22	22.2	11.31	144.5	349	4.54	8.41
W-05-194	27-Jul-05	21	18.3	6.92	81.1	314	8.35	7.59
W-05-195	27-Jul-05	20						
W-05-196	27-Jul-05	20	16.2	9.86	111.5	364	14.59	8.11
W-05-197	27-Jul-05	20						
W-05-198	28-Jul-05	19						
W-05-199	2-Aug-05	24						
W-05-200	2-Aug-05	28	27.3	5.35	75.1	167	122	7.50
W-05-201	2-Aug-05	30	29.6	2.31	32.8	181	> 300	7.05
W-05-202	2-Aug-05	33	29.7	2.21	32.2	166	212	6.92
W-05-203	3-Aug-05	20	23.2	6.33	84	266	14.23	7.36
W-05-204	3-Aug-05	25						
W-05-205	3-Aug-05	25	22.0	7.23	93.6	147	8.92	7.05
W-05-206	3-Aug-05	26						
W-05-207	8-Aug-05	30	26.0	7.57	107.1	1882	87	8.13
W-05-208	10-Aug-05	22	14.7	6.72	79	384	19.36	7.40
W-05-209	10-Aug-05	20	21.8			391	16.69	7.35
W-05-210	19-May-05	21						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-05-211	31-May-05	19						
X-05-001	27/04/2005	1	5.5	10.76	95		11.96	
X-05-002	27/04/2005	-1	6.8	10.50	92.6		11.39	
X-05-003	29/04/2005	1	4.3	10.18	91.7	974	16.07	
X-05-004	29/04/2005	1						
X-05-005	29/04/2005	1	9.0	9.84	101.8	499	67	6.50
X-05-006	29/04/2005	1						
X-05-007	29/04/2005	1	6.5	9.47	89.2	583	6.00	6.50
X-05-008	29/04/2005	1						
X-05-009	29/04/2005	1						
X-05-010	03/05/2005	6						
X-05-011	03/05/2005	7	6.4	10.35	98	445	17.89	6.75
X-05-012	03/05/2005	7	5.9	9.81	95.6	352	57	
X-05-013	03/05/2005	10						
X-05-014	03/05/2005	10						
X-05-015	03/05/2005	13	11.6	11.82	130.1	477	0.05	
X-05-016	03/05/2005	13						
X-05-017	03/05/2005	13						
X-05-018	04/05/2005	9	7.4	10.46	105.2	569	17.59	7.00
X-05-019	04/05/2005	13						
X-05-020	04/05/2005	15	8.7	10.34	105.7	347	13.37	7.50
X-05-021	04/05/2005	13	11.5	10.79	115.6	411	3.99	7.25
X-05-022	04/05/2005	16	12.4	9.14	102.2	381	5.78	7.50
X-05-023	04/05/2005	13	16.3			403	0.00	7.50
X-05-024	05/05/2005	9	10.5	5.62	58.1	388	3.19	6.75
X-05-025	05/05/2005	14						
X-05-026	05/05/2005	17	12.6	9.69	107.5	580	15.99	6.75
X-05-027	06/05/2005	17	15.5	9.40	108.2	479	30.21	7.25
X-05-028	06/05/2005	21	17.3	12.24	148	524	0.51	7.25
X-05-029	06/05/2005	21	15.7	9.83	116.4	425	13.76	7.00
X-05-030	10/05/2005	4	10.8	8.76	91.7	391	4.36	
X-05-031	10/05/2005	4	10.4	9.85	103.1	685	6.20	7.00
X-05-032	11/05/2005	5	5.2	9.77	88.3	454	21.33	

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-05-033	11/05/2005	1	6.2	12.55	121.2	499	8.81	7.50
X-05-034	11/05/2005	2						
X-05-035	11/05/2005	2	7.7	9.85	96.7	548	33.02	6.75
X-05-036	11/05/2005	3	10.2	11.72	122.1	435	1.59	7.25
X-05-037	12/05/2005	6	8.3	11.86	116.4	438	7.70	7.00
X-05-038	12/05/2005	7	9.5	11.91	121.6	432	9.88	6.75
X-05-039	12/05/2005	11						
X-05-040	12/05/2005	11	9.9			493	28.13	6.75
X-05-041	12/05/2005	11						
X-05-042	12/05/2005	11	12.9			344	29.71	6.75
X-05-043	12/05/2005	8						
X-05-044	13/05/2005	5	8.7			627	0.00	
X-05-045	13/05/2005	5	8.7	8.54	85	409	26.43	6.50
X-05-046	13/05/2005	5	8.5	8.41	83.3	396	3.37	6.50
X-05-047	13/05/2005	4						
X-05-048	14/05/2005	7	7.4	8.74	84.8	514	7.33	6.50
X-05-049	14/05/2005	4						
X-05-050	14/05/2005	5						
X-05-051	14/05/2005	5	7.4	11.61	114.1	837	0.00	6.75
X-05-052	14/05/2005	5	7.5	9.38	93.8	402	8.55	6.75
X-05-053	15/05/2005	9						
X-05-054	15/05/2005	10	5.2	11.59	108.6	829	13.14	7.00
X-05-055	15/05/2005	12	10.2	12.36	129.3	815	0.93	7.00
X-05-056	15/05/2005	10						
X-05-057	15/05/2005	10	12.2	13.24		450	2.71	7.00
X-05-058	16/05/2005	12						
X-05-059	16/05/2005	14						
X-05-060	16/05/2005	14	10.6	9.60	103.3	278	6.80	6.50
X-05-061	16/05/2005	16	10.7	9.24	101.5	313	2.53	6.50
X-05-062	16/05/2005	16	10.9	9.16	102.3	314	2.19	7.00
X-05-063	16/05/2005	16						
X-05-064	16/05/2005	16	15.2	9.35	110.8	600	4.84	7.00
X-05-065	16/05/2005	17						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-05-066	17/05/2005	14	13.3	10.89	124	488	13.50	7.25
X-05-067	17/05/2005	14	13.7	11.13	127.8	526	0.00	7.25
X-05-068	17/05/2005	16						
X-05-069	17/05/2005	20	17.3	8.26	101.7	474	6.40	7.00
X-05-070	18/05/2005	13	12.7	6.81	76.4	534	4.80	6.75
X-05-071	18/05/2005	12	14.8	6.00	70.5	440	6.28	6.75
X-05-072	18/05/2005	14	14.4	7.53	88.7	432	2.07	7.25
X-05-073	18/05/2005	16						
X-05-074	18/05/2005	16						
X-05-075	18/05/2005	16						
X-05-076	18/05/2005	15						
X-05-077	18/05/2005	16						
X-05-078	19/05/2005	15						
X-05-079	19/05/2005	14	14.2	2.23	24.5	602	15.25	6.75
X-05-080	19/05/2005	15	14.6	4.71	54	638	19.50	6.75
X-05-081	19/05/2005	16	18.1			779	2.01	7.00
X-05-082	19/05/2005	20						
X-05-083	19/05/2005	17	18.6	10.26	125	339	1.78	7.25
X-05-084	20/05/05	24	20.1			592	25.85	8.00
X-05-085	20/05/05	25	21.1			400	11.89	7.75
X-05-086	20/05/05	25	23.3	6.57	87.8	348	50	7.50
X-05-087	20/05/05	26						
X-05-088	24/05/05	17	18.2	7.32	87.8	441	2.50	6.75
X-05-089	25/05/05	17						
X-05-090	25/05/05	20						
X-05-091	25/05/05	17	12.8	6.98	81.3	172	3.29	
X-05-092	25/05/05	17						
X-05-093	27/05/05	7	10.9	5.51	58.8	660	33.90	7.25
X-05-094	27/05/05	7	10.3	11.43	117.6	603	28.84	6.75
X-05-095	30/05/05	24	17.4	9.29	112.3	650	7.34	8.00
X-05-096	30/05/05	24	18.8	5.78	73.5	696	6.02	7.50
X-05-097	30/05/05	19						
X-05-098	30/05/05	24	19.0	6.10	76.1	678	92	7.00

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-05-099	30/05/05	23	21.8	9.13	121.7	639	1.10	7.00
X-05-100	31-May-05	24	18.0	4.98	61.8	944	31.74	7.00
X-05-101	31-May-05	25						
X-05-102	31-May-05	23	18.3	9.76	123.6	995	13.88	6.75
X-05-103	31-May-05	22	18.4	8.68	110.2	752	62	7.00
X-05-104	31-May-05	24	18.4	9.03	114.2	788	11.58	7.00
X-05-105	1-Jun-05	18	16.6	5.70	75.5	1091	21.25	6.75
X-05-106	1-Jun-05	20	18.1	7.89	102	1033	26.62	7.75
X-05-107	1-Jun-05	21	17.5	7.23	92.7	628	259	7.00
X-05-108	1-Jun-05	23						
X-05-109	1-Jun-05	22	17.1	7.34	92	611	145	7.00
X-05-110	2-Jun-05	20						
X-05-111	2-Jun-05	24	16.5	8.32	103	500	91	7.50
X-05-112	2-Jun-05	20	21.7	9.08	122.7	788	9.42	7.75
X-05-113	2-Jun-05	20						
X-05-114	2-Jun-05	20	20.5	9.00	123.8	1126	16.33	7.50
X-05-115	2-Jun-05	20	21.4	10.06	135.7	886	25.08	8.25
X-05-116	2-Jun-05	20						
X-05-117	2-Jun-05	20	20.7	11.35	146.9	370	7.62	7.00
X-05-118	6-Jun-05	14	14.8	4.03	46	377	53	7.00
X-05-119	6-Jun-05	17						
X-05-120	6-Jun-05	18	19.5	9.74	123.9	575	20.80	7.00
X-05-121	6-Jun-05	23	17.7	7.62	94.2	545	152	7.00
X-05-122	6-Jun-05	25	20.1	7.94	107	245	12.06	8.00
X-05-123	7-Jun-05	10	15.4	4.57	54.4	270	7.92	7.00
X-05-124	7-Jun-05	10						
X-05-125	7-Jun-05	10	12.5	8.44	95.3	496	7.03	7.00
X-05-126	7-Jun-05	14	13.9	7.25	86.5	665	0.00	7.25
X-05-127	9-Jun-05	15	13.0	4.78	57.5	1004	16.33	7.53
X-05-128	9-Jun-05	16	17.2	8.49	111.3	851	12.55	7.93
X-05-129	10-Jun-05	15	14.9	4.27	49.2	>2000	3.64	7.46
X-05-130	10-Jun-05	15	15.5	7.86	92	1196	17.57	7.91
X-05-131	13-Jun-05	18						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% SAT)	Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
X-05-132	13-Jun-05	19	9.5	7.02	94.9	>2000	13.79	8.06
X-05-133	13-Jun-05	19	18.4	7.67	100.9	>2000	0.45	7.94
X-05-134	13-Jun-05	19						
X-05-135	13-Jun-05	17						
X-05-136	13-Jun-05	17	18.8			1151	0.00	7.86
X-05-137	14-Jun-05	15	17.7	5.57	71.5	1271	3.83	7.82
X-05-138	14-Jun-05	15	15.8	4.51	56	1291	4.68	7.69
X-05-139	14-Jun-05	15	16.3	2.89	35.8	911	10.45	7.68
X-05-140	14-Jun-05	15	16.1	6.23	77.6	1223	0.00	8.06
X-05-141	14-Jun-05	15						
X-05-142	15-Jun-05	19						
X-05-143	15-Jun-05	19	16.8	6.55	83.5	>2000	0.00	7.58
X-05-144	15-Jun-05	21	18.1			1550	0.00	7.93
X-05-145	15-Jun-05	23	19.6			1399	0.00	7.92
X-05-146	16-Jun-05	25	20.5			682	42.84	7.55
X-05-147	17-Jun-05	23						
X-05-148	17-Jun-05	23	19.5			420	4.09	6.69
X-05-149	21-Jun-05	24						
X-05-150	21-Jun-05	25	22.0			547	19.39	8.26
X-05-151	21-Jun-05	26	22.8			612	36.49	8.31
X-05-152	21-Jun-05	27						
X-05-153	21-Jun-05	30	25.5			953	5.57	8.27
X-05-154	21-Jun-05	30	27.2			1015	9.66	8.20
X-05-155	22-Jun-05	28	23.8			969	0.00	8.18
X-05-156	22-Jun-05	29						
X-05-157	22-Jun-05	29	25.0			1944	3.86	8.33
X-05-158	22-Jun-05	30						
X-05-159	23-Jun-05	20						
X-05-160	23-Jun-05	20						
X-05-161	23-Jun-05	20						
X-05-162	23-Jun-05	25	25.1			1224	0.00	8.04
X-05-163	23-Jun-05	25	22.9			1417	0.00	7.65
X-05-164	23-Jun-05	20	24.5			908	6.07	7.70

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-05-165	27-Jun-05	20	16.4	4.21	57.4	783	54	7.80
X-05-166	27-Jun-05	20						
X-05-167	28-Jun-05	14	14.9	4.50	58.5	671	4.96	7.53
X-05-168	28-Jun-05	16	15.2	6.30	84	448	123	8.07
X-05-169	28-Jun-05	15	16.2	4.60	61.9	616	0.00	7.59
X-05-170	28-Jun-05	21						
X-05-171	28-Jun-05	24	16.6	6.35	86.6	425	> 300	7.94
X-05-172	29-Jun-05	16	17.8	4.26	56.7	795	0.00	7.91
X-05-173	29-Jun-05	16	17.2	4.85	64.7	733	0.00	7.93
X-05-174	30-Jun-05	19						
X-05-175	30-Jun-05	19						
X-05-176	4-Jul-05	22	19.9	5.52	77.6	894	0.00	7.60
X-05-177	4-Jul-05	24	20.8	4.68	66.8	987	2.72	7.40
X-05-178	5-Jul-05	25	21.5	5.78	83.4	929	9.57	8.12
X-05-179	5-Jul-05	25						
X-05-180	5-Jul-05	25						
X-05-181	6-Jul-05	25	7.9	9.34	125.8	396	113	7.00
X-05-182	6-Jul-05	25	21.5	7.79	113.3	382	26.21	7.83
X-05-183	6-Jul-05	25	23.7	7.33	114.2	376	14.40	7.68
X-05-184	6-Jul-05	25						
X-05-185	7-Jul-05	22	19.9	4.29	60.2	419	5.08	7.48
X-05-186	7-Jul-05	25	23.3	9.99	149.4	467	8.11	7.83
X-05-187	7-Jul-05	30						
X-05-188	7-Jul-05	31	27.5	6.27	93.2	511	0.00	7.76
X-05-189	8-Jul-05	31	23.3	4.19	58.1	515	6.58	7.36
X-05-190	11-Jul-05	27	25.8	3.39	54.5	824	0.00	7.50
X-05-191	12-Jul-05	29	22.7	5.60	84.7	448	10.14	7.78
X-05-192	13-Jul-05	28	22.6	6.05	97.7	211	1.91	7.48
X-05-193	13-Jul-05	29	20.8	6.04	89.9	447	2.12	7.59
X-05-194	13-Jul-05	30	24.5	5.08	81.4	526	4.39	7.76
X-05-195	13-Jul-05	32	26.0	6.88	104.2	543	2.19	8.35
X-05-196	14-Jul-05	25	26.4	1.47	20.6	372	5.54	6.81
X-05-197	14-Jul-05	27						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (μS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
X-05-198	14-Jul-05	25	22.9	6.23	92.9	367	12.86	8.13
X-05-199	14-Jul-05	26	24.7	6.24	95.5	449	23.57	8.09
X-05-200	15-Jul-05	25	19.3	6.16	87.2	497	14.66	8.07
X-05-201	3-Aug-05	20						
X-05-202	3-Aug-05	21	22.9	6.94	104	548	7.53	8.23
X-05-203	3-Aug-05	19	23.4	2.34	35.1	942	0.00	7.64
X-05-204	4-Aug-05	23	21.1	1.08	14.2	449	7.69	7.27
X-05-205	4-Aug-05	22						
X-05-206	4-Aug-05	22						
X-05-207	4-Aug-05	21	19.3	9.05	118	654	15.48	7.82
X-05-208	4-Aug-05	24	23.9	11.13	150	330	18.39	8.31
X-05-209	16-Jun-05	20						
X-05-210	22-Jun-05	24	23.3			986	5.95	8.29
D-06-001	6-Jul-06	22	22.5	8.23	107.9	429	8.18	8.38
W-06-001	9-May-06	8	13.0	2.49	27.2	873	13.37	7.34
W-06-002	9-May-06	12						
W-06-003	9-May-06	10	12.8	6.33	70.5	933	5.06	8.00
W-06-004	9-May-06	10	12.9	6.40	70.9	687	0.00	7.61
W-06-005	9-May-06	10						
W-06-006	10-May-06	8						
W-06-007	10-May-06	8	9.1	6.80	73.3	852	2.76	6.92
W-06-008	10-May-06	8	9.3	9.43	106.2	>2000	7.82	7.93
W-06-009	10-May-06	11	11.5	8.18	99.4	1056	0.00	7.39
W-06-010	10-May-06	14	14.3	11.79	151.8	537	0.00	8.53
W-06-011	11-May-06	8						
W-06-012	11-May-06	9	12.0	8.82	105	1478	0.00	7.28
W-06-013	11-May-06	10						
W-06-014	11-May-06	14						
W-06-015	11-May-06	14	14.3	10.10	130.1	1323	2.05	8.48
W-06-016	11-May-06	16	16.2	11.07	148.8	1360	0.00	6.91
W-06-017	11-May-06	9	10.6	8.24	96.4	>2000	0.00	8.33
W-06-018	12-May-06	9	10.2	7.68	98.7	>2000	10.65	6.91
W-06-019	12-May-06	7	12.4	7.29	91	837	20.59	8.01

Appendix 6: Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (μS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-06-020	15-May-06	10	14.5	8.50	109.6	360	0.00	7.63
W-06-021	15-May-06	12	13.4	4.39	53.7	477	44.69	7.30
W-06-022	16-May-06	15	15.8	8.63	116.9	949	30.07	8.48
W-06-023	16-May-06	16	15.2	9.93	130.8	776	16.67	8.40
W-06-024	16-May-06	19						
W-06-025	16-May-06	16	16.6	8.55	103	736	5.44	8.39
W-06-026	17-May-06	17	17.0	7.08	86.5	747	1.59	8.15
W-06-027	17-May-06	18	20.9	10.37	133.9	727	4.64	8.68
W-06-028	17-May-06	19	20.1	9.87	125.7	725	3.38	8.54
W-06-029	17-May-06	12	16.7	5.52	67.3	1192	41.83	7.92
W-06-030	23-May-06	24	16.4	6.69	82	1450	11.91	8.17
W-06-031	23-May-06	27	17.5	8.33	101.5	1171	27.57	8.28
W-06-032	23-May-06	12	19.0	4.91	60.4	1422	21.85	8.05
W-06-033	24-May-06	16						
W-06-034	24-May-06	17						
W-06-035	24-May-06	17						
W-06-036	24-May-06	11	16.3	2.55	42.1	954	2.44	7.71
W-06-037	25-May-06	12						
W-06-038	25-May-06	12						
W-06-039	26-May-06	12						
W-06-040	26-May-06	12	14.7	4.03	47.5	833	0.00	6.91
W-06-041	26-May-06	12						
W-06-042	26-May-06	14						
W-06-043	26-May-06	16	18.4	8.59	105.8	1339	29.41	8.33
W-06-044	26-May-06	16						
W-06-045	26-May-06	17	18.2	9.24	123.1	947	0.07	8.38
W-06-046	26-May-06	12	16.0	2.03	25.7	1103	0.00	7.54
W-06-047	27-May-06	14						
W-06-048	27-May-06	14						
W-06-049	27-May-06	16	17.6	6.37	84	905	6.54	8.40
W-06-050	27-May-06	17						
W-06-051	30-May-06	17						
W-06-052	30-May-06	17						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-06-053	30-May-06	18						
W-06-054	30-May-06	21	20.5	11.34	160	910	65	8.80
W-06-055	30-May-06	22	20.5			876	26.52	9.01
W-06-056	30-May-06	18	16.9	7.31	86	1366	2.33	8.91
W-06-057	31-May-06	17						
W-06-058	31-May-06	17	18.0	8.99	109	795	16.14	8.33
W-06-059	1-Jun-06	23						
W-06-060	1-Jun-06	24	17.7	7.99	99.7	1793	41.60	8.45
W-06-061	1-Jun-06	25	20.3	6.61	93.8	169	0.00	7.55
W-06-062	6-Jun-06	22	21.0	4.74	60.79	1028	38.17	7.44
W-06-063	6-Jun-06	20	12.9	9.69	105.5	501	>300	8.59
W-06-064	7-Jun-06	20	14.3	9.14	106.7	298	> 300	8.53
W-06-065	7-Jun-06	22	14.6	9.45	110.8	486	> 300	8.64
W-06-066	7-Jun-06	22	14.5	7.96	95.9	562	45.62	8.66
W-06-067	7-Jun-06	14	15.2	7.43	85.8	691	2.47	8.11
W-06-068	8-Jun-06	15	16.3	7.75	94.8	560	11.40	8.09
W-06-069	8-Jun-06	17						
W-06-070	12-Jun-06	20	23.0	8.57	120.5	410	5.17	8.58
W-06-071	12-Jun-06	17						
W-06-072	13-Jun-06	17						
W-06-073	13-Jun-06	17						
W-06-074	13-Jun-06	17	21.0	6.97	92.6	280	1.69	7.50
W-06-075	13-Jun-06	19						
W-06-076	13-Jun-06	22	19.3	6.86	84.8	102	5.51	6.91
W-06-077	13-Jun-06	22	19.6	2.44	33.5	519	23.24	7.41
W-06-078	13-Jun-06	20	21.8	8.32	111	165	15.28	8.01
W-06-079	14-Jun-06	24	20.7	6.50	88.3	133	6.66	7.41
W-06-080	14-Jun-06	24						
W-06-081	14-Jun-06	22						
W-06-082	15-Jun-06	22						
W-06-083	15-Jun-06	20	19.5	8.19	110.7	494	0.00	8.54
W-06-084	20-Jun-06	15						
W-06-085	21-Jun-06	15	17.4	7.09	89.1	1150	15.43	7.92

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-06-086	21-Jun-06	15						
W-06-087	21-Jun-06	13	16.9	6.40	89.4	341	1.95	7.92
W-06-088	22-Jun-06	16	19.3	6.94	102.1	262	10.31	7.81
W-06-089	22-Jun-06	17	20.8	8.08	112.8	485	2.47	8.53
W-06-090	22-Jun-06	20	19.4	8.42	113.6	302	3.82	8.61
W-06-091	22-Jun-06	19	17.1	5.49	71.3	565	0.00	7.82
W-06-092	23-Jun-06	20	18.3	7.92	104.6	509	3.09	8.37
W-06-093	23-Jun-06	20	19.6	6.52	87.7	489	33.26	8.37
W-06-094	23-Jun-06	20	18.6	2.55	31.2	286	62	6.91
W-06-095	27-Jun-06	21						
W-06-096	27-Jun-06	26	24.2	9.79	130.3	592	14.28	8.67
W-06-097	27-Jun-06	28	17.7	6.67	84.6	504	5.37	7.88
W-06-098	27-Jun-06	20	22.9	8.68	116.7	633	45.36	8.37
W-06-099	28-Jun-06	22						
W-06-100	28-Jun-06	22	24.3	8.56	125.1	608	9.94	8.38
W-06-101	28-Jun-06	26						
W-06-102	28-Jun-06	26	26.2	5.97	111.5	567	2.03	8.46
W-06-103	28-Jun-06	26						
W-06-104	28-Jun-06	18						
W-06-105	29-Jun-06	18						
W-06-106	29-Jun-06	24	24.7	7.99	118.5	806	36.24	8.57
W-06-107	29-Jun-06	25						
W-06-108	4-Jul-06	25						
W-06-109	4-Jul-06	25						
W-06-110	4-Jul-06	26	23.5	8.69	123	455	27.80	8.46
W-06-111	5-Jul-06	25						
W-06-112	5-Jul-06	29	28.4	7.52	110.6	800	15.11	8.08
W-06-113	5-Jul-06	20	21.3	7.84	102.4	511	15.05	8.22
W-06-114	6-Jul-06	20	19.8	9.59	122.4	693	29.37	8.37
W-06-115	10-Jul-06	26						
W-06-116	10-Jul-06	20						
W-06-117	11-Jul-06	26						
W-06-118	10-Jul-06	22						

Appendix 6: **Results of basic water chemistry and air temperature measurements recorded at most sites where fishing effort was applied between 2002 and 2006.**

Site Number	Date	Air Temp. (°C)	Water Temp. (°C)	Dissolved Oxygen		Conductivity (µS/cm)	Turbidity (NTU)	pH (units)
				(mg/L)	(% SAT)			
W-06-119	11-Jul-06	22	21.1	8.93	116.1	530	2.23	8.45
W-06-120	11-Jul-06	23						
W-06-121	12-Jul-06	25	24.5	8.75	121.6	655	0.00	8.27
W-06-122	12-Jul-06	27						
W-06-123	12-Jul-06	27						
W-06-124	12-Jul-06	20	21.4	4.38	56.9	212	66	7.31
W-06-125	18-Jul-06	22						
W-06-126	18-Jul-06	22	23.9	7.19	97.1	35	16.45	7.32
W-06-127	18-Jul-06	24						
W-06-128	18-Jul-06	24						
W-06-129	18-Jul-06	24						
W-06-130	18-Jul-06	22						
W-06-131	18-Jul-06	25						
W-06-132	18-Jul-06	26						
W-06-133	19-Jul-06	26	25.4	4.20	60.7	33	36.99	6.72
W-06-134	19-Jul-06	31	25.5	5.71	79.6	73	241	6.75
W-06-135	20-Jul-06	29						
W-06-136	20-Jul-06	29						
W-06-137	20-Jul-06	30						
W-06-138	1-Aug-06	24	22.5	5.50	75.7	1362	117	7.22
W-06-139	1-Aug-06	27	23.9	8.40	111.6	1260	143	7.18
W-06-140	1-Aug-06	29	24.9	9.57	1323	1248	281	7.34
W-06-141	1-Aug-06	20	22.9	7.19	93.9	1320	18.21	7.27
W-06-142	2-Aug-06	22						
W-06-143	8-Aug-06	30	25.0	5.92	91.4	840	107	7.31
W-06-144	8-Aug-06	30	26.2	11.41	161.7	852	26.11	6.54
W-06-145	8-Aug-06	30						
W-06-146	9-Aug-06	30	21.3	7.34	106	954	8.08	7.08

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-02-001	Test protocols.
D-02-002	Test electrofisher.
D-02-003	Channelized natural stream. Minimum spring flows.
D-02-005	Walleye parts collected on-site (cleaned, from another location?). Raised ford crossing. Downstream natural; upstream diked (both sides) and channelized.
D-02-006	Recent construction. Some algae growth. No aquatic vegetation or diverse habitat.
D-02-007	Flow estimate 1 cfs (cubic feet per second). Some meanders forming. No cattails or other aquatic vegetation. No hard substrate.
D-02-008	White Suckers still spawning. Fairly diverse habitat.
D-02-009	Bank slumping. South side of channel recently cleaned.
D-02-010	Very turbid.
D-02-011	Running less turbid than Manning Canal.
D-02-012	Local knowledge: local says fish (not sure what kind) are often in the ditch.
D-02-013	Very recent dredging. Spoils on east bank. Uniform bottom (clay/muck). Local knowledge: local says Northern Pike are present during high water.
D-02-014	Upstream of sheet pile weir. Upstream has simple habitat, downstream is natural habitat. Heavily silted upstream of weir and some areas downstream of weir.
D-02-015	A large beaver dam 100 m downstream. Local says suckers present during high water. Flooded willow and cattails.
D-02-016	Culvert is steeply pitched - likely obstructs fish passage. Flow estimate = 1cfs.
D-02-017	Note how drain outlet to river is perched above river level. This effect may prevent upstream movement of fish during periods of low river flow.
D-02-018	Well defined thalweg. Local knowledge: local says often Northern Pike in drain. There is a steeply graded riffle 200 m downstream.
D-02-019	Recent works have been done. Water very turbid. Some areas of bank slumping.
D-02-020	Recent works downstream of crossing.
D-02-021	More recent cleanout than Selkirk Line Drain. Poorly defined thalweg, uniform trapezoid channel, no undercut banks.
D-02-022	Kick sampled 2 m^2; lots of sucker eggs and benthic invertebrates.
D-02-023	Kick sampled 2 m^2; sucker eggs and a few invertebrates. Riffle still has good flow/gradient.
D-02-026	Kick sampled, sucker eggs and invertebrates. Right bank slumping, left bank recently cleaned; riffle has areas of hydraulic jump (oxygen input).
D-02-027	Confined cattle operation 75 m from stream. Residence lawn to edge of bank. Remnant beaver dam.
D-02-028	Kick sampled, sucker eggs and invertebrates. There is substantial beaver activity on floodplain. One corrugated metal pipe; 40% pool, 30% riffle, 30% run.
D-02-029	No flow.
D-02-030	All run/pool habitat. Low flow.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-02-031	Flow estimate = <1.5 cfs. Not recently dredged. Extensive undercut banks. Mean pool depth is 0.3 m.
D-02-033	Spawning suckers and Fathead Minnow observed. Kick sampled Percidae eggs and Trichoptera on constructed riffle.
D-02-034	Local knowledge: Turtle River Watershed employee says Northern Pike are present in high water.
D-02-035	Willow lined wetted perimeter. Very heavy sediment deposition except on the cobble at culvert inlets/outlets.
D-02-036	Some submerged vegetation and undercut banks. Mostly run habitat with an occasional scour pool.
D-02-037	White Sucker congregated on cobble/ boulders under bridge.
D-02-038	Dry.
D-02-039	Very low flow. Standing pools.
D-02-040	One large pool.
D-02-041	Found several egg husks and nematodes in drift sample; reset drift trap at 17:15.
D-02-042	Sample contained egg husks but no larvae.
D-02-043	No recent maintenance work. Grassed banks with few willows.
D-02-044	Lots of submerged cobble/boulder; max depth is 1.4m.
D-02-045	Undercut banks and overhanging vegetation. Shale trap/control structure. Grassed riparian area with willows.
D-02-046	Pulled larval drift trap, sample appeared empty.
D-02-047	Standing pools only. Pasture upstream has moderate bank impacts and a dugout constructed midstream. There is very limited buffer vegetation.
D-02-048	Heavy cattle impacts on left bank downstream of crossing in pasture. Standing pools.
D-02-049	Dry.
D-02-050	Dry.
D-02-051	Woody debris instream. Thalweg is well defined meanders within channel. Thalweg length is about 2X channel length. Pasture on right bank; right bank well vegetated with poplar.
D-02-052	Site of shale cleanout.
D-02-053	No flow. Cattle impacts.
D-02-054	Flow estimate = 1.5 cfs.
D-02-055	Heavy algal growth downstream of cultivated fields. Recent maintenance works upstream.
D-02-056	Shale and sand deposition. Some scour pools. Appears old trees have been removed. Tops of banks grassed, sides of banks are treed.
D-02-057	Cattle impacts.
D-02-058	Perched culverts.
D-02-059	Backwater area of Turtle River with lots of deadfall, undercut banks, overhanging vegetation, canopy, and pools.
D-02-060	Shale substrate. Site of shale removal. Habitat is mostly run with some small shallow riffles.
D-02-061	Only able to fish edges and gradient control structure. Bank vegetation is burnt and some bank slumping present.
D-02-062	Riffle section only.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-02-063	Photo of culvert perched above water level.
D-02-064	Dry.
D-02-065	Two dead Northern Pike on shore, site is a popular angling spot. Incoming drains are perched above water level and culverts are gated.
D-02-066	Set a larval drift trap.
D-02-067	Flows through a cow pasture downstream of reach.
D-02-068	Lots of undercut banks. Some burning of bank vegetation upstream. No other recent works.
D-02-069	Well defined thalweg. No recent work except bank vegetation mowed to edge of wetted channel.
D-02-070	Pulled a larval drift trap at 09:30 - sucker eggs but no larvae.
D-02-071	Cow pasture upstream with heavy bank impacts. Natural stream conditions observed downstream.
D-02-072	Set a larval drift trap at 13:30. Local knowledge: Water Resources staff seeding the area have seen Yellow Perch and Northern Pike in past years.
D-02-073	Set a larval drift trap at 14:10.
D-02-074	Lots of undercut banks, boulders, submerged vegetation, and woody debris. Site is beside a Golf course.
D-02-075	No recent cleanout; heavy sediment in pools.
D-02-076	Checked larval drift trap at 08:30.
D-02-077	Bank slumping on right bank; left bank has bare spots.
D-02-078	Cattle impacts upstream of bridge. Some bank slumping and exposed root wads.
D-02-079	Running very clear. Lots of good healthy riparian vegetation.
D-02-080	Some meanders starting to form upstream.
D-02-081	Cow pasture on right bank; bank slump on bend.
D-02-082	Four corrugated metal pipes.
D-02-083	Lots of beaver activity (dam upstream).
D-02-084	Cow pasture upstream of bridge. Cobble/boulder placed to stabilize banks downstream of bridge.
D-02-085	Culverts are perched 0.1 m. Low flow (very slight trickle). 4 corrugated metal pipe culverts present.
D-02-087	Two corrugated metal pipes.
D-02-088	Saw four Northern Pike. Channel fairly choked with cattails, heavy filamentous algae growth. Bank scour below culvert.
D-02-089	Riparian area all forage.
D-02-090	Cement box bridge structure. Drain is choked with cattails.
D-02-091	Choked with cattails, No flow. Pasture upstream.
D-02-092	Heavy growth of filamentous algae observed. Pasture upstream.
D-02-093	Lots of instream boulders and vegetation (some bulrush).
D-02-094	Instream cattails. Banks are forage plants only.
D-02-095	Undercut banks above present water level. Lots of algal growth in backwater areas.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-02-096	Gradient control structure 100 m upstream. Areas of bank scour.
D-02-097	Numerous larval and juvenile minnows observed. Two corrugated metal pipes, perched. Bank slumping, right bank recently disturbed.
D-02-098	Choked with cattail. Three corrugated metal pipes present.
D-02-099	Cement V-notch weir.
D-02-100	Heavy rains overnight. Some undercut banks and channel is starting to meander due to bank slumping. Channel has a U-shaped cross-section.
D-02-101	Two corrugated metal pipes. Channel is beginning to meander; sediment deposition present; similar to U-Drain (clay substrate).
D-02-102	Channel has U-shaped cross-section and has a well-defined thalweg. Clay substrate. Three corrugated metal pipes present.
D-02-103	Water is very turbid from the south; inflow from the north is clear.
D-02-104	Stream is natural with some channelization 1 mile upstream and has cattle impacts downstream.
D-02-105	No flow. There is a concrete dam with lots of silt infilling upstream of the dam. Some bank slump is present.
D-02-106	Raised crossing with 0.7 m corrugated metal pipes. No flow. Cattails and sedges in channel.
D-02-107	There are cattle trails and bank impacts. A 2.0 m culvert is perched about 0.4 m. Flow = 0.2 cfs.
D-02-108	Local knowledge: Rainbow Trout and White Sucker present in spring from Spear Lake. Beaver activity.
D-02-109	Standing pools only. Lots of willows along channel; banks are stable.
D-02-110	Active beaver pond; cow trails; native vegetation on banks (shrubs, willows, poplar, oak).
D-02-111	Ford crossing; undercut banks.
D-02-112	Scour pool downstream; some scour upstream; lady slippers on banks; diverse aquatic and riparian vegetation; large spruce across drain.
D-02-113	1/2 mile upstream: large still across drain, more lady slippers.
D-02-114	Very slight trickle of flow; scour pool (diameter is 0.5 m); two corrugated metal pipes present.
D-02-115	Near anoxic conditions, no fish collected.
D-02-116	Water is very turbid. Cobble/boulders present under bridge, the rest is sand/clay.
D-02-117	Looking at cow pasture.
D-02-118	Some flow; no recent works, moderate sediment deposition except bridge area.
D-02-119	Limestone outcrops; max depth is 0.6 m.
D-02-120	Dry. One standing pool and 1 corrugated metal pipe present.
D-02-121	Some recent cleanout upstream (2-3 years). There are three corrugated metal pipes and water depth is 0.4 m.
D-02-122	Inflow from tributary; cattle pasture.
D-02-123	Very slight trickle of flow; dike mowed and baled to 3 m from water's edge; two corrugated metal pipes.
D-02-124	There is a slight trickle of flow, a perched culvert, and cattle pasture downstream - bank impacts.
D-02-125	Lots of springs in area. Local knowledge: local says Northern Pike usually present. There are lots of undercut banks, overhanging vegetation. It's good habitat.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-02-126	Beach seined scour pool. There are cattle impacts downstream with crossing and manure pile.
D-02-127	Diverse habitat. Some cattle trails. Four corrugated metal pipes present.
D-02-128	Backwater pools. Four corrugated metal pipes.
D-02-129	Banks are a mix of hay meadow and willows. Submerged vegetation, emergent vegetation, canopy, and undercut banks present.
D-02-130	Two Northern Pike caught, one released. Heavy vegetation in channel except in large scour pool.
D-02-131	Cultivated to within 3 m of water's edge.
D-02-132	Dense cattail growth.
D-02-133	Emergent vegetation (pond lily, arrowhead) suggests water permanence. Dense cattails.
D-02-134	No flow. Standing pools.
D-02-135	Local knowledge: landowner says usually Northern Pike each spring. Spring fed. Beaver activity.
D-02-136	Flow estimate = 0.1 cfs. Culvert perched by 0.3 m. Recently cleaned trapezoidal channel, with a hard bottom.
D-02-137	Lots of young of the year Brook Stickleback, Creek Chub, and Fathead Minnow. Natural channel upstream. Hayed downstream.
D-02-138	No flow. Standing pools. Lots of boulder/cobble associated with bridge. Upstream is forested.
D-02-140	Photo of Water Survey of Canada hydrometric station.
D-02-141	Culvert replacement with sediment/erosion controls in place.
D-02-142	Some shale is being trapped at constrictions. Historic shale cleanouts are evident. Mowed highway right-of-way.
D-02-143	Photo of Water Survey of Canada hydrometric station.
D-02-144	Dry.
D-02-145	No flow. Standing pools.
D-02-146	Low flow, 0.2 cfs estimated. Culverts perched 0.3 m above water level. Channel is natural.
D-02-147	Lots of young of the year Creek Chub and Brook Stickleback. Beaver activity. No flow. Standing pools.
D-02-149	Cattle trails and trampled banks.
D-02-150	No flow. Standing pools.
D-02-151	Dry. Rill.
D-02-152	Dry except for standing pools. V-shaped, deeply incised channel.
D-02-153	Dry.
D-02-154	Dry.
D-02-155	Dry. Scour pool below culvert. Deeply incised channel.
D-02-156	Dry.
D-02-157	Standing pools.
D-02-158	No flow.
D-02-159	Dry.
D-02-160	Local knowledge: anecdotal evidence of Northern Pike, Walleye, and White Sucker. Constructed riffles?
D-02-161	Permanent flow? Shale deposition.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-02-162	Very slight trickle of flow. Lots of standing water in heavily vegetated channel.
D-02-163	Dry.
D-02-164	Local knowledge: landowner says flow all winter, suckers in high water, occasional Northern Pike, too many beaver dams.
D-02-165	Low flow 0.2 cfs estimated. Lots of beaver activity. Extensive beaver flood upstream.
D-02-166	Dry. Broad grassy floodplain. Boulder/cobble downstream of culvert.
D-02-167	100's Brook Stickleback and Creek Chub. Heavy cattle impacts upstream. Bare ground, widened.
D-02-168	Dry. Small diameter corrugated metal pipe.
D-02-169	Grassed waterway. Dry.
D-02-170	U-shaped channel with lots of undercut banks and overhanging vegetation.
D-02-171	Spring fed. Lots of undercut banks and overhanging vegetation. Grated culvert to reduce beaver activity.
D-02-172	Cattle impacts. Culvert perched 0.4 m above water level.
D-02-173	Spring fed. Firm sand/gravel bottom.
D-02-174	Lots of beaver activity. Submerged and emergent vegetation present.
D-02-175	Cattle impacts. Banks trampled and channel widened at cattle crossing.
D-02-176	Natural channel upstream, channelized downstream. Spring fed. 100% of flow from 1st-order tributary from SW.
D-02-177	Channelized downstream from crossing.
D-02-178	Extensive cobble/boulder armouring and infilling associated with bridge.
D-02-179	A small sheet pile dam below culvert (landowner installed) has created a deep pool below culvert.
D-02-180	Emergent vegetation (mostly cattails) and submerged vegetation present. Silt/sand deposition at constrictions and bends.
D-02-181	Pools to 1.2 m deep. Natural riparian vegetation.
D-02-182	Hayed to near top of right bank. Heavily vegetated instream. Old ford crossing.
D-02-183	Extensive boulder armouring with geotextile on banks. Sediment deposition on bars.
D-02-184	Numerous stoneflies indicate good water quality. Hardened/fenced cattle watering site.
D-02-185	No flow standing pools. No measurable dissolved oxygen. 100's of Brook Stickleback.
D-02-186	No flow. Dry.
D-02-187	Dry.
D-02-188	No flow standing pools only. Well oxygenated at time of site visit.
D-02-189	Dry.
D-02-190	Severe cattle impacts. Raised crossing with small diameter, corrugated metal pipe 200 m downstream.
D-02-192	Severe bank erosion downstream of culverts. Closely cropped riparian vegetation and mature trees only.
D-02-193	Numerous Northern Pike observed. Many young of the year Common Carp.
D-02-195	Northern Pike (141, 137 mm) and White Sucker (193, 142 mm) caught.
D-02-197	Released two White Sucker @ 280 mm and 300 mm. Recent bank stabilization works.
D-02-198	Local knowledge: landowner says flows all year. Northern Pike every spring.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-02-199	Released White Sucker 215 mm. Observed numerous other White Sucker.
D-02-201	Northern Pike 220 - 255 mm. Spring-fed pools.
B-03-001	Only small immature fish, no mature fish caught. Kick sample effort was 2 m^2. Beaver activity observed.
B-03-003	Local knowledge: Farmer mentioned large fish show up after rains and Northern Pike caught 3 miles downstream
B-03-004	Velocity (m/s) at perched corrugated metal pipe = 0.57 (upstream) and 0.01 (downstream).
B-03-006	Dry and channelized.
B-03-007	Water flows over road at low level crossing.
B-03-008	Standing water only, three corrugated metal pipes.
B-03-009	One Northern Pike caught.
B-03-011	Channelized to road edge, very dry.
B-03-012	Water quality poor (very eutrophic, high amounts of algae). Two culverts perched 1 m. Velocity (m/sec) upstream = 0.2, downstream = 0.75, Holding/storage ponds present 1 mile upstream.
B-03-013	Channelized downstream. Kick sample 2 m^2, found nothing perhaps due to geotextile under rocks. Landowner mentioned creek floods every spring. Released a Creek Chub (19 cm), missed a lot of fish in pool east of PTH #83.
B-03-014	Horses grazing up to creek on south side of road.
B-03-016	Flows through cattle pasture. Missed four Brook Stickleback.
B-03-017	Released a 200 mm White Sucker. DU control structure just upstream, lots of fish in pool below structure.
B-03-018	Road crossing flooded. Brook Stickleback observed. Site unsuitable to fish. Lots of beaver activity.
B-03-019	Corrugated metal pipe 2.9 m diameter.
B-03-020	Released two Brook Stickleback. No flow.
B-03-021	No flow, standing pools.
B-03-022	Cattle pasture to southeast of crossing.
B-03-023	40cm diameter corrugated metal pipe perched 20 cm. Dry.
B-03-024	40cm diameter culvert, dry.
B-03-025	North corrugated metal pipe perched and severe erosion observed.
B-03-026	Released eight Creek Chub (180,130,125,110,135,135,110,110 mm) 1 Common Shiner (120 mm) and 1 White Sucker (120 mm).
B-03-027	Two perched corrugated metal pipes; east corrugated metal pipe perched 10 cm, west corrugated metal pipe perched 3 cm.
B-03-029	Recent roadwork and corrugated metal pipe installed, cement chunks used for rip-rap.
B-03-030	Released seven small Northern Pike and 150 plus Fathead Minnow.
B-03-031	Culvert velocity (corrugated metal pipe) upstream is 0.06 m/s downstream is 0.07 m/s
B-03-032	Three corrugated metal pipes at 190 cm. Little or no flow.
B-03-033	Released two Brook Stickleback.
B-03-034	Major scouring downstream of corrugated metal pipe observed.
B-03-035	Many crayfish.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-03-036	Dry.
B-03-037	Dry.
B-03-038	Control structure has backed up flow.
B-03-039	Dry.
B-03-040	Released one Brook Stickleback.
B-03-041	Released one Brook Stickleback and one White Sucker (500 mm). Concrete shoring present around culverts.
B-03-042	Low level crossing creates a bit of riffle, but habitat is mostly marshy.
B-03-043	Reach is within a pasture, but very natural. Low flow with maximum depth of 25cm.
B-03-044	Not complete.
B-03-045	Two gated corrugated metal pipes.
B-03-046	No flow, wide marsh. Low area.
B-03-047	Creek consists mainly of vegetated marshy areas.
B-03-048	Little flow, mainly a few large standing pools.
B-03-049	Two corrugated metal pipes with 2.45 m diameters.
B-03-051	Most of creek is deep with a very soft, mucky bottom (not suitable to wade and fish).
B-03-052	Caught a number of immature fish. Appears sewage from farm up the hill is pumped directly into creek.
B-03-053	Released six Northern Pike (700, 700, 700, 600, 600, 500 mm).
B-03-054	Very low flow.
B-03-055	Culvert perched 12 cm. Rocks up to base at slope of 1:1.5.
B-03-056	Pasture on both sides. Dry. Beaver dam 1 mile north at crossing on PTH #24.
B-03-057	Water backed up due to beaver dams.
B-03-058	Extensive beaver dams.
B-03-059	Channelized, very little flow.
B-03-060	Certain we saw another mature Northern Pike.
B-03-061	Corrugated metal pipe upstream velocity 0.47m/s, downstream velocity 0.57m/s, and is perched 190cm.
B-03-062	Released two White Sucker (200 mm, 170 mm), four male and 14 female Fathead Minnows, and two Brook Stickleback.
B-03-063	No flow and a lot of algal growth.
B-03-064	Released: 1 Black Bullhead (190 mm), 1 Creek Chub (140 mm).
B-03-065	Electrofishing effort was 330 sec x 120 m. Released 2 Fathead Minnows. 180 cm corrugated metal pipe perched 10 cm with upstream velocity of 0.14 m/s and downstream of 0.31 and 120 cm diameter pipe perched 10 cm with no flow.
B-03-066	Very marshy without much water movement.
B-03-067	Electrofishing effort was 525 sec x 125 m. No catch. Very little flow.
B-03-069	No flow. Standing pools with lots of algae, very deep ditch along road.
B-03-070	Released: two White Sucker (400,600 mm), two male Fathead Minnows, and 12 Brook Stickleback.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-03-071	Reach is channelized.
B-03-074	Water in standing pools only.
B-03-075	Released: two Fathead Minnow and 6 Brook Stickleback.
B-03-076	Released one White Sucker (345 mm), 1 Creek Chub (215 mm).
B-03-077	Released seven Creek Chub (110, 140, 120, 125, 105, 135, 120 mm), 3 White Sucker (120, 90, 95 mm).
B-03-078	Corrugated metal pipe with cement bottom.
B-03-079	No flow.
B-03-082	Both electrofisher batteries dead must return to site later.
B-03-083	Dip netted large number of Brook Stickleback and Fathead Minnows.
B-03-084	Electrofishing effort was 321 sec x 40 m. Saw a large number of Brook Stickleback and Fathead Minnow.
B-03-085	Released 11 bullhead @ 120 - 175 mm and one immature Northern Pike (130 mm).
B-03-086	Above lowest gradient control structure. One beach seine haul 30 x 12 m, with no catch.
B-03-087	Released two Northern Pike (460, 640 mm).
B-03-088	Lots of algae and duckweed.
B-03-090	Three corrugated metal pipes.
B-03-091	Water high and turbid. One problematic beach seine haul, released one Black Bullhead and two Fathead Minnows.
B-03-093	Released eight Fathead Minnows.
B-03-094	Released three Northern Pike (110, 115, 130 mm).
B-03-095	Missed a number of fish. Caught three salamanders. Released six Brook Stickleback.
B-03-097	Lots of tadpoles observed.
B-03-098	Released six Western Blacknose Dace.
B-03-101	One beach seine haul 30 x 15 m released six Fathead Minnows and one Burbot.
B-03-102	Released one White Sucker (420 mm), saw Northern Pike as well.
B-03-103	See cover sheet about bridge. Released four White Sucker (80, 85, 90, 92 mm).
B-03-110	Very dry.
B-03-111	Gradient control structures dry.
B-03-112	Released one White Sucker (110 mm).
B-03-115	Released one White Sucker (160 mm). Eroded cattle watering site. Channelized.
B-03-116	Released two White Sucker (130, 110 mm), two Fathead Minnows.
B-03-117	Released one Brook Stickleback. Thick bush riparian area on west side. Cattle pasture on east side.
B-03-119	Released two Mudminnow. Local knowledge- two farmers mentioned catching Northern Pike ¼ mile downstream in small lake. One cemented in corrugated metal pipe, 3.5 m x 2.5 m.
B-03-120	Released one White Sucker, one Northern Pike. Local knowledge- local again mentioned Northern Pike in stream.
B-03-122	Released three White Sucker (175, 128, 30 mm), and five Mudminnow.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-03-123	Dry.
B-03-124	Low flow. Channelized in past with some erosion having occurred since.
B-03-125	No flow with stagnant water. Channelized and diked.
B-03-126	Channel wide and deep with low flow.
B-03-127	Dry.
B-03-128	Dry. Cattle grazing in creek bed.
B-03-130	Dry. Cattle grazing in creek bed.
B-03-132	Released one Brook Trout (170 mm) and two White Sucker (120 mm, 95 mm).
B-03-133	Three corrugated metal pipes: west one diameter 50 cm and perched by 30 cm; middle one diameter 90 cm and perched by 5 cm; east one diameter was 30 cm not perched with. A trickle of flow.
B-03-134	Released one White Sucker (150 mm) and three Brook Trout (135-145 mm). Kick sample was 2 m squared.
B-03-135	Recent construction on PR #471 ditch causing bare soil to wash into creek.
B-03-136	Missed habitat assessment.
B-03-137	Dry.
B-03-139	Runs along PR #265.
B-03-140	No flow.
B-03-141	Released 17 Brook Sticklebacks.
B-03-142	Pasture to west. One 4.5 m diameter corrugated metal pipe.
B-03-143	Released approximately 80 Common Shiner, 40 White Sucker, 20 Fathead Minnows, 40 Creek Chub, and 20 Brook Stickleback.
B-03-145	Beach seine haul was 40 m x 15 m, no catch.
B-03-146	Dry. Extensively grazed by cattle.
B-03-147	Dry. Major erosion caused by cattle.
B-03-148	Electrofishing effort of 289 sec x 40 m resulted in no catch. Extensive erosion caused by cattle.
B-03-149	Dry. Cattle grazing in creek bed.
B-03-150	Large deep pool, 30 m x 30 m. Pasture.
B-03-151	Released four Creek Chub (120,130,110,100 mm). South corrugated metal pipe velocity upstream 0.34 m/s, and downstream was 0.43 m/s Kick sample 2 m squared of riffle habitat and released three Longnose Dace and one Common Shiner from sample.
B-03-152	Released two White Sucker (210, 145 mm), and two Creek Chub (205, 100 mm).
B-03-153	Stagnant and marshy.
B-03-154	Dry.
B-03-155	Dry.
B-03-156	Fatheads in standing pool.
B-03-157	Fatheads in standing pool.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-03-158	Released nine White Sucker (160, 200, 135, 120, 130, 140, 125, 120, 115 mm), One Common Shiner (120 mm), and 40 Fathead Minnows. Pasture.
B-03-159	Two large corrugated metal pipes perched 10 cm.
B-03-160	Released 15 Brook Sticklebacks, 50 Fathead Minnows, and one Creek Chub.
B-03-163	Large sediment trap and manmade riffle.
B-03-181	Missed a large sucker.
B-03-182	Old crossing is now a riffle.
B-03-183	Released one Walleye (325 mm) and one Northern Pike (160 mm).
B-03-184	Electrofishing effort was 218 sec X 20 m.
B-03-185	Missed four larger fish.
B-03-186	Creek flows through pasture. Manure pile 10 m from drain.
B-03-189	Released three Northern Pike (285, 270, 90 mm), and one bullhead (170 mm).
B-03-190	Water Survey of Canada hydrometric station on North side of PR #403. Hog barn on left bank.
B-03-191	Released 17 Mudminnow, and one White Sucker (110 mm).
B-03-192	Released nine Fathead Minnows, one White Sucker (190 mm), and one Brook Stickleback.
B-03-193	Beach seine attempt failed.
B-03-194	Released approximately 50 young of the year bullheads, 200 Fathead Minnows, and one adult Black Bullhead (285 mm).
B-03-195	Channelized Some standing water full of algae.
B-03-196	Channelized.
B-03-197	Hayed dikes.
B-03-198	Channelized. Hayed dikes. Dry.
B-03-199	One standing pool, channelized and diked.
B-03-200	Released 5 Northern Pike (455, 385, 520, 365, 350 mm), 1 Sauger (310 mm), 3 Black Crappies (130, 165, 180 mm), 12 Black Bullheads (200, 170, 170, 170, 165, 190, 180, 180, 155, 185, 145, 175 mm). Gradient Control Structure present.
B-03-201	Dominion City Dam and reservoir.
B-03-202	Abundance of small fish. Spotted one bullhead. Too much vegetation to fish, standing water only.
B-03-203	Cattle grazing in stream on north bank. Gravel pit 10 m from stream on right bank. Too much vegetation to fish. Standing water only.
B-03-204	Released one small White Sucker, two Fathead Minnows, two central Mudminnow, and 265 Brook Stickleback.
B-03-206	Released two Northern Pike (155, 140 mm), 23 Mudminnow, nine White Sucker, and one Brook Stickleback. Channelized and diked.
B-03-207	Missed four large fish, released one White Sucker (135 mm) 43 Fathead Minnows, three Mudminnow, and eight Brook Stickleback.
B-03-208	Cattle grazing on east side of road.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-03-209	Released 24 young of the year White Sucker, 11 Fathead Minnows, and 25 Brook Stickleback. There was extensive erosion from cattle on North side of PR #201.
B-03-210	Standing water only. Channelized.
B-03-211	Boulder dam with old mill and channel on left bank.
B-03-212	Released four Mudminnow, and three Fathead Minnows. Stunned, but could not net, six Northern Pike.
B-03-213	No flow.
B-03-214	Marshy.
B-03-215	Dry.
B-03-216	Dry.
B-03-217	Dry.
B-03-218	Dry except one tiny pool in which we netted one Northern Pike (210 mm) and seven Fathead Minnow.
B-03-219	Low level crossing. Dry.
B-03-220	No flow and marshy.
B-03-221	Deep, and marshy. Flow seemed to be reversed.
B-03-222	Dry with three perched corrugated metal pipes.
B-03-223	Two corrugated metal pipes. Dry. In fairly natural/unaltered condition.
B-03-224	Local knowledge-Hasn't been running until recent rains according to landowner, water much lower than usual and Yellow Perch have been caught here other years.
B-03-225	Dry. Dense cattail growth.
B-03-226	Very low flow. Channelized. Deep and wide.
B-03-227	Little or no flow evident. One large corrugated metal pipe. Wetted area completely filled with vegetation.
B-03-228	Two corrugated metal pipes. Dry.
B-03-229	No flow. Channelized. Approach across drain with two corrugated metal pipes. Dip netted 100's of Brook Stickleback, Fathead Minnow, and ten Western Blacknose Dace.
B-03-230	Dry. Reach has one v-notch weir; two more weirs within the next 1/2 km upstream.
B-03-231	Dry. Exposed substrate has a good mix of cobble, boulders and gravel. Would be good riffle habitat during spring flows.
B-03-232	No flow. Very dry but with some wetted areas of marsh vegetation.
B-03-233	Dry. Good mix of hard substrate present.
B-03-234	Channelized. Dry. Bank vegetation mostly grasses.
B-03-235	Channelized and diked. Four corrugated metal pipes at crossing.
B-03-236	Dry. Channelized. Cattle grazing upstream, cattle crossing downstream of crossing.
B-03-237	Heavy cattail growth in stream. Very minor cattle impacts.
B-03-238	Cattle grazing on both sides of crossing. Lots of hummocks from grazing evident.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-03-239	Released quite a few Fathead Minnows, Brook Stickleback, shiners. Local knowledge: landowner says water at lowest since drain alteration in 1994.
B-03-240	Dry. Dense cattail growth.
B-03-241	Standing pools only. Observed other small Northern Pike that we couldn't catch. Both dikes hayed.
B-03-242	No flow. Narrow riparian zone, affected by cattle grazing. Channelized and diked.
B-03-243	Very dry. Some impacts (erosion) from cattle.
B-03-244	No flow through dam.
B-03-245	Recent clean out downstream of corrugated metal pipes.
B-03-246	Dry.
B-03-247	Tiny trickle of flow through corrugated metal pipe.
B-03-248	Dry. Bank vegetation mowed.
B-03-249	Wide and deep channel. Local knowledge: local farmer mentioned that sucker and Northern Pike have been caught at this site.
B-03-250	Dry. Recent dredging and alteration.
B-03-273	Dry; mowed channel and roadside bank.
D-03-001	At riffle 75 m upstream of bridge crossing.
D-03-002	One culvert perched 0.4 m; the other culvert slightly perched. Kick sampled for invertebrates (E = 3 m2); Flow = 2.17 m/s at downstream end of culvert and 1.25 m/s at upstream end of culvert.
D-03-003	Constructed riffles. Released 13 Pearl Dace and two spawning Brook Sticklebacks.
D-03-005	Water Survey of Canada hydrometric station. Control structure/weir present.
D-03-006	Cattle impacts include bank trampled and slumping.
D-03-008	At concrete dam with five bays.
D-03-009	Twenty Brook Stickleback released. Very few shrubs and no trees in riparian area.
D-03-011	Caught suckers and a Brook Trout (Fork = 13.2 cm, Total length = 14.0 cm). Upstream has heavy sediment deposition. Riffles are prevalent downstream of crossing. Inflow to culvert has a velocity of 0.35 m/s; velocity culvert outflow is 0.48 m/s; all other culvert velocities are lower; kick sampled 2 m sq. for invertebrates.
D-03-012	Cattle have impacted the banks and there is evidence of vehicle crossings.
D-03-013	Dry. Cattle impacts and vehicle/tractor crossings through channel.
D-03-015	The best habitat is under the bridge and around beaver dam. Heavy shale deposition present, 5 mature White Sucker congregated under bridge.
D-03-016	Heavy sediment deposited above shale trap (full); shale is being deposited downstream. General habitat quality is poorer downstream of shale trap.
D-03-017	No catch. Shale deposition in pools.
D-03-019	No riffles.
D-03-020	Very slight trickle of water.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-03-021	No flow; standing pool under bridge and upstream.
D-03-022	No flow; standing pools only.
D-03-023	Fatheads spawning. Some bank instability in area of culverts and some undercut banks.
D-03-024	Significant bank slumping. The velocity at the downstream end of the culvert was 1.13 m/s. Some minor cattle impacts present.
D-03-025	Boulders associated with bridge (upstream and downstream). There are some undercut banks and woody debris.
D-03-026	Minnows attempting to move upstream are limited by the slope and shallow water over cement structure (0.7 m to 1.0 m head). Bank vegetation cropped to within 5 m from water's edge upstream of crossing.
D-03-027	Lizard Lake Ducks Unlimited project has 2 water level controls (site was below 2nd control structure). Culverts are perched 0.6 m (likely intentional to limit fish ingress to the marsh). 1000s of Fathead Minnow and 100s of Brook Stickleback were caught.
D-03-028	Cement box culvert in disrepair and is marked as a hazard to public safety.
D-03-029	Shale substrate in the pools. Released Brook Sticklebacks and spawning Fathead Minnows.
D-03-030	Culverts are perched.
D-03-031	Culverts are perched.
D-03-032	Culvert is perched 5-7 m by scour
D-03-033	Culverts are backwatered. There are cattle trails downstream of crossing.
D-03-035	Bridge to be replaced. Minor cattle impacts. 100s of Fathead Minnow, dozens of Brook Stickleback and 3 Creek Chub released from seine haul.
D-03-036	Released 1 Silver Redhorse (Fork length = 264 mm). Cattle impacts; fences across river.
D-03-037	There is a dam 150 m upstream. Collected stonefly larvae (Order Plecoptera) and the presence of bulrushes indicate permanent flow.
D-03-038	There is a weir upstream of reach not passable at this flow. Released Common Carp, Walleye, White Sucker, Silver Redhorse, Longnose Dace, Blackside Darter, Johnny Darter, Common Shiner, and emerald shiners.
D-03-039	Very high flow (recent rains). Bankfull stage in un-diked section. Culvert # 2 blocked by woody debris at upstream end. Culvert velocities: #1 – upstream = 1.19 m/s, downstream = 1.37 m/s; #2 – upstream = 0.19 m/s, downstream = 0.2 m/s; #3 – upstream = 1.10 m/s, downstream = 1.39 m/s.
D-03-040	Channel is poorly defined upstream. Heavy recent rains. Catch is one Black Bullhead. There is a sewage/water reservoir~300 m upstream of reach.
D-03-041	Severe cattle impacts present downstream of crossing, the banks are trampled bare. Culverts are perched by 0.3 and 0.4 m.
D-03-043	Lagoon is 0.5 km east of crossing.
D-03-044	Site is by PTH #32. Woody debris and willows on bank. Fatheads are spawning and caught one bullhead and three White Sucker.
D-03-045	Water is running very clear in comparison to local drains. No catch. Substrate is heavily vegetated< banks have grasses and willows. Recent heavy rains.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-03-047	There is a cement ford crossing with a small culvert (diameter = 0.3 m). Released 3 Black Bullheads (lengths = 120 mm, 116 mm, 110 mm). The flow is 1.09 m/s at upstream end and 3.04 m/s at downstream end of culvert. Some undercut banks and well defined thalweg.
D-03-048	Cattle instream on site.
D-03-049	Banks are grassed. There are some scour holes present where the gated culverts are located. A ford crossing within the reach provides some riffle habitat. The culvert diameter is 2.8 m.
D-03-050	There is no flow; dry with the odd pool.
D-03-051	Dry. Standing pools only.
D-03-052	Culvert perched 0.4 m. No flow, standing pools only. Cattle impacts present on downstream side of crossing.
D-03-053	Dry; scour pool downstream of bridge (5 m x 3 m x 0.3 m). Reach is a grassed waterway.
D-03-054	Recent clean out? Already 15-20 cm of silt deposited. Trickle of flow. Cultivated to edge of drain. Only Brook Stickleback present. Site was very turbid after sampling (34.68 NTU). Local knowledge: landowner said Rainbow Trout and White Sucker come up from Lake Irwin in high water years. No cobble except under bridge.
D-03-055	Marsh habitat; bulrushes in small pockets indicate permanent pools of water.
D-03-056	Marsh habitat; lots of bulrushes.
D-03-057	Site is adjacent to PR #465, 100 m downstream of crossing. There were lots of undercut banks. Mostly pool/run habitat.
D-03-058	Local knowledge: anecdotal evidence of many kinds of indicator species. Geoweb ford crossing. Undercut banks. Moderate deposition of shale, sand and silt. There have been recent rains.
D-03-059	Site is at raised ford crossing; mid-channel culvert velocities (m/s): #1 upstream = 0.22, downstream = 1.05; #2 upstream = 0.11, downstream=1.08. Shale and silt deposition. Constructed riffles at gradient control structures/silt traps.
D-03-060	Released 2 White Sucker. Lots of submerged vegetation and grasses present. No riffle habitat, some diversity at numerous bends.
D-03-061	There is a good mix of hard substrate: sand/ gravel/ cobble/ boulders.
D-03-062	Local knowledge: landowner (100 m south) indicated suckers and Northern Pike present years ago. Dam in Ethelbert removed now. Upper Fork River stocked with trout in 1996. Good mix of riffle/run/pool habitat. Overhanging vegetation, canopy, undercut banks, and woody debris present.
D-03-063	Culvert slightly perched at this water level.
D-03-064	Local knowledge: landowner (one mile west) says Northern Pike and suckers present years ago. Cattle impacts upstream of crossing. Beaver dam removed upstream, last week. Pool immediately downstream of crossing was beach seined.
D-03-065	Released White Sucker, Creek Chub, Brook Stickleback, Common Shiner, Fathead Minnow, and Western Blacknose Dace. Some submerged vegetation and undercut banks present.
D-03-066	Numerous beaver dams.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-03-067	Culvert velocities m/s: #1 (Northern most corrugated metal pipe) upstream = 0.96, downstream = 1.63; #2 upstream = 0.45, downstream = 1.90; #3 upstream = 0.95, downstream = 1.22, perched 0.2 m; #4 upstream = 0.24, downstream = 1.39, perched 0.3 m; #5 (middle culvert) upstream = n/a, downstream = 1.5, perched 0.3 m; Riparian area is limited by lawn upstream.
D-03-068	There is lots of submerged vegetation and overhanging vegetation present. Some signs of beaver activity.
D-03-069	Loon Lake Wetland upstream of crossing.
D-03-070	Dry with standing pools. No flow.
D-03-071	Three 2.8 m corrugated metal pipes embedded with beaver screens on upstream end. There is a natural meander but no riffles. Pool substrate is mostly sand and some silt.
D-03-072	There was a recent beaver dam removal Very little flow.
D-03-073	There was a very recent beaver dam removal.
D-03-074	No flow.
D-03-075	Slight trickle of flow; very strong sulphur dioxide odour; very low oxygen. No catch.
D-03-076	Released two Northern Pike (166, 172 mm), three Fathead Minnows, four Brook Stickleback. Higher dissolved oxygen at this reach.
D-03-077	Slight trickle of flow through middle culvert.
D-03-078	Hundreds of Brook Stickleback and Fathead Minnow released plus one Finescale Dace.
D-03-079	Minor cattle impacts from cattle access/pasture upstream. No flow, pools only.
D-03-080	Culvert slightly perched. Just a trickle of flow.
D-03-081	Reach is at a natural section of stream.
D-03-082	Dry. No flow.
D-03-083	There is a beaver dam 25 m upstream of crossing. No flow; standing pools. Released one 300 mm Northern Pike and one 220 mm White Sucker. Also released two Western Blacknose Dace.
D-03-084	Site is at a ford crossing. Beavers have removed all poplar trees within 20 m of banks. There is a very slight trickle of flow (approx. 0.2 cfs). Low oxygen conditions present, DO in pool was 3.51 mg/L (43.4 %). Stickleback and Fathead Minnows present.
D-03-085	There is moderate sand/silt deposition with very little instream cover. It is a known trout stream (naturalized); caught White Sucker.
D-03-086	There was a recent removal of beaver dams downstream. Existing beaver dams catching sediment. All age classes of riparian vegetation present. White Sucker were caught.
D-03-087	There is a trickle of flow and heavy cattail growth is present.
D-03-088	There is a cow pasture with moderate bank trampling 200 m downstream of bridge. Landowner (south of pasture on downstream side of bridge) says Northern Pike were always in the stream before the Gilbert Dam was built (used to over winter in beaver ponds). White Sucker were caught.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-03-089	Landowner immediately East says it flows all year since the dam has been installed on Pleasant Valley Lake; released two (200 mm) White Sucker.
D-03-090	Water level gauge present. Extensive algae bloom on lake. 1000s of Brook Stickleback and Fathead Minnow, lesser numbers of Creek Chub, Finescale Dace, Northern Redbelly Dace and Pearl Dace present at spillway outfall. Dam was constructed in 1971.
D-03-091	Released one 350 mm White Sucker.
D-03-092	Marsh habitat.
D-03-093	No flow; marsh habitat.
D-03-094	Released one Brook Stickleback. Reach is immediately downstream of recent riparian vegetation removal. Very low oxygen. No flow. Beaver dam at upstream end of culvert.
D-03-095	Good dissolved oxygen conditions. Brook Stickleback only (young of year).
D-03-096	Flow estimated to be > 2 cfs - 3 cfs. Cattle have access and are crossing immediately upstream of road crossing. Only Brook Stickleback collected.
D-03-097	White Sucker collected. The ford crossing has 12 small diameter (0.8 m) culverts. There is not a lot of woody debris. Lots of sediment deposition. There is evidence of sediment cleanouts and there is very little submerged vegetation.
D-03-098	Slight trickle of flow. Young of year suckers present. The reach has lots of instream vegetation. Upstream of culvert crossing has a smaller riparian vegetation zone width.
D-03-099	Very low gradient area. Marsh adjacent to creek.
D-03-100	A beaver dam is present 50 m downstream of crossing. There is low flow estimated at 2 cfs. Collected only Brook Sticklebacks and Fathead Minnows. Local knowledge: landowner said creek was dry until the rains last week.
D-03-101	Plunge pool present below culvert (perched 0.2 m). Pasture on upstream side of road, minor cattle impacts.
D-03-102	Zero catch. Local knowledge: campground owner says lots of 'minnows' 3 weeks ago - no flow for a few weeks, then it started flowing again with the recent rains. Known fish bearing stream (I. Hagenson). Stream rehabilitation work done to return it to old channel by TRWCD.
D-03-103	Frequent bends present (natural meander). Rehabilitation site by TRWCD to put creek back into old channel. Low flow. Several other young of year Northern Pike observed.
D-03-104	Channel is dry. I. Hagenson says Northern Pike and Common Carp are present in the spring.
D-03-105	Local knowledge: landowner caught young of year Northern Pike, suckers, and Walleye in the stream two weeks earlier. There has been enhancement of riffles upstream of reach.
D-03-106	Dry. Standing pool only.
D-03-107	Mostly grassed waterway. Poorly defined channel thalweg.
D-03-108	Dry except for pool under bridge. Channel is grassed waterway upstream of bridge.
D-03-109	Dry. No flow. Small scour pool present below bridge. Lightly grazed pasture downstream of crossing. Good riparian area upstream of crossing.
D-03-110	Trickle of flow. Reinforced cemented in culverts.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-03-111	Cattle impacts present upstream of crossing.
D-03-112	No flow. Scour pool present downstream from bridge.
D-03-113	Dry.
D-03-114	Dry Well armoured culverts (both upstream and downstream ends).
D-03-115	Channel has some undercut banks, boulders, and woody debris.
D-03-116	Dry; scour pools below culverts.
D-03-117	Collected White Sucker. Large pool present. There is only a trickle of flow. Undercut banks and over-hanging vegetation present. Lots of shale deposition.
D-03-118	Dry. No flow; grassed channel.
D-03-119	Dry. Some down cutting of channel and some areas of bank slump. Field is cultivated almost to edge of the bank.
D-03-120	Standing pools; no flow. Small Northern Pike (2 year classes) are in pool below bridge. Local knowledge: landowner says Walleye, Northern Pike, and suckers present in high water years.
D-03-121	Collected young of year Northern Pike. Shale/silt in pools. Culvert is perched by 0.7 m. There is a shale trap 200 m upstream.
D-03-122	Large amount of shale deposition. Caught a 138 mm long Brook Trout.
D-03-123	Standing pools only.
D-03-124	Heavy shale deposition dominates substrate. Channel straightened and diked on both sides. Grassed banks.
D-03-125	Heavy cattail growth in Big Grass River Ditch.
D-03-126	Caught ten Northern Pike (200-250 mm). There are areas with heavy cattail growth in pools and areas with well-defined thalweg (no cattail growth); the riparian area is grassed.
D-03-127	There has been a recent cleanout at the reach and a more recent cleanout one mile upstream; trapezoidal channel.
D-03-128	Dry; grassed riparian area.
D-03-129	There is good riparian vegetation along road allowance. No flow; standing pools. Channel is choked with cattails downstream of culvert. Creek Chub, Fathead Minnow, and Western Blacknose Dace were in one pool (10's of each).
D-03-130	Trickle of flow; standing pools. Some pools have bulrush growth indicating permanently wetted conditions.
D-03-131	Cattle impacts upstream and downstream. Shale cleanouts. Dugout constructed instream.
D-03-132	Over 100 dead Cyprinids (Pearl Dace, Western Blacknose Dace) observed. Local knowledge: landowner said the dead fish showed up after the Monday rains. Recent crop spraying in the area.
D-03-133	A riffle is present under bridge. Flow estimate 3-5 cfs.
D-03-134	Banks are grassed. Dense growth of cattails. Released hundreds of Creek Chub, Fathead Minnows, and a few Brook Stickleback.
D-03-135	Shale deposits embed boulders. Canopy cover provided by riparian vegetation. Springs present - flow over and under shale.
D-03-136	Heavy cattails/grasses instream. Very long culverts (50 m) that angle under PR #261. Small standing pools with a trickle of flow.
D-03-137	No fish observed. Estimate flow at 1.5-2 cfs (cold spring water). There is no flow two miles downstream - under the shale?
D-03-138	There is heavy cattail growth. Released hundreds of Creek Chub, Fathead Minnows, and a few Brook Stickleback.
D-03-139	A pasture exists downstream of crossing - presently lightly grazed Springs are likely in area.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-03-140	Banks are impacted by cattle; cattle have direct access to water.
D-03-141	Dry. Small scour pool on downstream side.
D-03-142	Site is at ford crossing. A lot of gravel, cobble, undercut banks, and overhanging vegetation (natural section) with a good riffle/pool/riffle sequence present.
D-03-143	Dissolved oxygen in pool above riffle is 56.9% (4.4 mg/L). Local knowledge: landowner says there are Brook Trout in the North and South Duck River.
D-03-144	Western Blacknose Dace, Brook Stickleback, Longnose Dace, and Creek Chub were collected. Minor cattle impacts upstream of crossing. Wooden box culvert under highway.
D-03-145	One 190 mm long Brook Trout was collected; couldn't catch two others that were approximately 190-250 mm. Lots of undercut banks, boulders, logs, and overhanging vegetation present. There are cement box culverts and the ditch is mowed by PTH #10. Boulders are serving as a sediment trap.
D-03-146	The landowner upstream of culvert has mowed lawn to edge of stream. Cattle have impacted the banks downstream of culvert.
D-03-147	There is vegetation throughout the channel. Dry.
D-03-148	Small amount of flow. Lots of overhanging vegetation and canopy.
D-03-149	Vegetation is present throughout channel. Reach is dry.
D-03-150	Dry; flows into Swan Lake.
D-03-151	Dry; pool below culvert.
D-03-152	Local knowledge: Landowner one mile south says Northern Pike and suckers have problems accessing drains because of beaver dams. There are lots of cattails, arrowhead, and lily pads present in pools; lots of undercut banks present and one riffle downstream of bridge. Upstream of culvert has good riparian area.
D-03-153	There is a trickle of flow through culvert, although it is mostly blocked by woody debris placed by beavers. The beaver pond flooding over road 10 m upstream of crossing.
D-03-154	Mostly riffle/run habitat with two deep pools and cover provided by fallen trees. Small rock/ cobble/ gravel substrate. Little or no aquatic vegetation. The banks are mowed by PTH #10 and the right bank is armoured upstream of the bridge.
D-03-155	Dense aquatic vegetation and heavy algae growth. No riffles; few bends; and riparian vegetation up to 15 m upstream and downstream of bridge is mowed.
D-03-156	There are no pools; it's a shallow stream (approx. 3 inches deep) with mowed riparian area (15 m) from bridge to forest. Vegetation from top of bank to the stream has been left untouched.
D-03-157	Shallow riffle/run sequence. Water Survey of Canada hydrometric station present.
D-03-158	Dry. Recent rock infill upstream and downstream of culverts.
D-03-159	A recent culvert replacement; old culvert filled by beavers with mud and woody debris.
D-03-160	Dry.
D-03-161	Dry. Grasses and cattails in channel.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-03-162	Small shallow pools upstream and downstream of culvert. Meandering channel with well-defined thalweg. Lots of emergent and submerged vegetation.
D-03-163	Dry with standing pools> No flow.
D-03-164	Heavy sand/silt deposits in pools. Upstream of bridge has good riparian vegetation (all stages). Stream beginning to meander forming undercut banks. Released one 210 mm White Sucker and one 200 mm Northern Pike. Instream vegetation is providing some cover and shade.
D-03-165	Trickle of flow. Very shallow.
D-03-166	Trickle of flow. Thalweg is approximately 6 inches wide upstream of crossing. The culvert is perched approximately 6 inches.
D-03-167	Shale deposition present. No aquatic vegetation. Flow through left side of cement box culvert only; middle culvert plugged with shale. All fine shale/sand substrate in pools and other deposition areas.
D-03-168	Fairly heavy rains last night. Observed 2 Northern Pike and 2 Brook Stickleback.
D-03-169	Natural reach with U-shaped channel cross-section. Good undercut banks, overhanging vegetation. Deposition largely organic debris.
D-03-170	Just upstream of Shoal Lake aqueduct siphon. Recent siphon cleanout?
W-03-001	Released four Central Mudminnow. Cultivated fields both sides, little to no riparian width. Recent rains Sunday and Monday (May 18, 19). One large unknown fish observed. Sixteen Suckers caught and released. Stream depth uniform ~1m. East bank diked.
W-03-002	Six Brook Stickleback and two Creek Chub released from beach seine. Agricultural field goes right to edge of bank downstream of reach. Right bank eroded by culvert. One natural bend natural and one artificial riffle downstream of culvert. A few boulders and cobbles.
W-03-003	No fish caught. Large beaver dam 100 m downstream. Soft, silt bottom.
W-03-004	Flow velocity: upstream culvert = 0.68 m/s, downstream = 1.34 m/s. Recent rains. Uniform depth. Site off PTH #11. Four culverts west of PTH #11, two culverts east of PTH #11.
W-03-005	Off PTH #11; North of Lac Du Bonnet. Round cement culvert. Small cattle herd (15 cow/calf pairs) with access to drain.
W-03-006	Off Maple Creek Road. Three perched culverts and one embedded culvert (with fastest flow). No flow in 2nd culvert from east.
W-03-007	Off PTH #11. Beaver dam west of culvert.
W-03-008	Electrofishing effort was 149s by 10m. No fish caught. Heavy cattail vegetation upstream of crossing. Light rain May 21/03. Vegetative bank protection dominated by grasses.
W-03-009	Natural section. Not much gravel, cobble or boulders. Not many riffles, more bends. Riparian area good except along road.
W-03-010	Electrofishing effort was 196 sec x 75 m. *No fish caught. Flow velocities: culvert inlet = 0.53 m/s; culvert outlet = 1.04 m/s. Culvert armoured with boulders and concrete materials, some unstable. Gradient control structure - sheet-pile weir. One riffle
W-03-011	Flow velocity: culvert inlet = 0.58 m/s; culvert outlet = 1.69 m/s. Culvert armoured with boulders and concrete. Raised crossing working as a control structure. Gradient control structures every mile.
W-03-012	Low flow.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-013	Two culverts perched 0.3 m at downstream end.
W-03-014	Adjacent to Icelandic horse farm. Standing pool. Grassed banks, no trees or shrubs. Off PR. #236.
W-03-015	Stream is dry except for standing pool. East of PR #236. No flow, heavy instream cattails. Grassed banks, no trees. Three culverts, one gated culvert.
W-03-016	Dry except for small standing pool. Stream recently cleaned out. Some grass growing in channel downstream of culverts. Grassed banks, no trees. Two culverts (1 m in diameter) perched above small (0.3 m in diameter) culvert.
W-03-017	Standing shallow pool downstream of reach. MB Hydro power lines (photos 51-56). Located off PR #236.
W-03-018	Upstream agricultural field right to diked banks (on east bank). Located off PR # 221. Two culverts present.
W-03-019	Three young of the year Northern Pike collected. Electrofishing was very difficult because of high conductivity. A lot of instream vegetation. Submerged vegetation providing some cover. One riffle under bridge, two bends. Banks covered by grasses west of PTH #2.
W-03-020	No fish caught. Recently dredged, piles of mud on banks. Some instream vegetation (Bulrushes, Arrowheads). No trees, grasses only, bare banks on north side (right bank) and on south side (left bank). Upstream no water at culvert, marshy further upstream. Hard mud bottom after cleanout.
W-03-021	Agricultural land. No trees in riparian area. Drain is dry. Agricultural fields run to edge of drain bank.
W-03-022	Lots of instream vegetation (Coontails). Boulders and cobble along right bank. 3 gated culverts (perched) from Old Sturgeon Creek. Old Sturgeon Creek is dry.
W-03-023	Joins up with Sturgeon Creek (4th order). 2nd order drain is dry. Sturgeon Creek uniform depth of 0.2 m. Two gated culverts are 0.1 m above creek bed.
W-03-024	Farm adjacent to Meridian Drain. Possible hog barn?
W-03-025	No flow. Standing pools only. Grassed banks. At junction of Meridian drain and unnamed second and first order drains. Approximately 40 m of Meridian drain upstream of crossing have recently been cleaned out.
W-03-026	Some cattails. Field ends at top of bank (where bank slopes to water). Mats of algae present. One pool.
W-03-027	Off PR # 236. Very recently cleaned out. One standing pool.
W-03-028	Diked downstream of culverts (left bank). Grassed banks upstream. All dry except for one standing pool.
W-03-029	Off Meridian Road. (RM of Woodlands). Junction of 2-2nd order drains. Dry.
W-03-030	Electrofisher would not work effectively in highly conductive water. Beach seine haul was 10 m x 8 m. Stream uniform depth 0.3 m. Standing pool under bridge. Gravel pile under bridge. Grassy banks. Marsh downstream of bridge.
W-03-031	Junction of 2nd and 3rd order drains. 2nd order drain is dry.
W-03-032	Dry. No trees, only grasses in riparian zone.
W-03-033	Trickle of flow. Lots of instream vegetation (cattails). Early succession shrubs and trees growing in riparian area.
W-03-034	No flow, some standing pools. Young trees growing along banks.
W-03-035	No fish caught. Heavy filamentous algae. Very bad rotten egg smell (hydrogen sulphide). No riffles in reach, five bends within view. One deep scour pool below culvert. Grassed banks.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-036	Problems with electrofisher because of high conductivity. No fish caught. Riparian zone greater than 18 m.
W-03-037	Very low flow. 2 very large culverts (~2 m in diameter).
W-03-038	Dry. Standing pools upstream and downstream of culverts.
W-03-039	No flow. Standing pools only. Left bank, downstream of culverts, is bare. Some grass starting to establish.
W-03-040	Perched culverts (approx. 0.2 m). Standing pools with dense algae growth.
W-03-041	Dry. Left bank bare upstream. Some grass growing on left bank, downstream of culverts.
W-03-043	Extensive algae bloom in pools.
W-03-044	Beach seine effort 6 m x 15 m. No catch. Long culverts. Significant bank slump and erosion on right bank upstream from culvert. Flow very slow downstream from culvert. No riffles, one pool, many bends both upstream and downstream of reach. Upstream left bank has greater than 18 m riparian zone.
W-03-045	North of Stephenfield Lake along gravel road.
W-03-046	Undercut banks. Dense emergent vegetation. Three culverts, no riffles but good run and pool habitat although both pools in reach are shallow.
W-03-047	Mostly surrounded by shrubs and grasses.
W-03-048	No flow. Dry. Appears to be a lot of vegetation in the active channel. Diked on both sides at stream bends. Road on south and west side. Evidence of potential new road. Downed trees.
W-03-049	One Brook Stickleback caught; three others observed but could not catch. No riffles, or fast moving water, no bends, deep thalweg in center of channel. Mostly grasses and a few shrubs in riparian zone. Dry above rocks and weir.
W-03-050	A lot of crayfish and Gammarus. Problems with electrofisher in high conductivity water. Farmer stopped to enquire about beaver dams. He said there are a lot of dams upstream. Cattle crossing river, trampled banks
W-03-051	Fences on either side of the road.
W-03-052	Completely dry.
W-03-053	Wooden bridge. Marsh like habitat upstream and downstream from bridge. Dry upstream and downstream of the marsh area about 100 m upstream and downstream of the crossing.
W-03-054	Very marshy, a lot of emergent and submerged vegetation.
W-03-055	Five juvenile Northern Pike caught. Wooden bridge. Tree rows around cultivated fields, none adjacent to stream. Mainly grass and shrubs on banks. Water extremely turbid, no riffles, slow/ deep and slow/ shallow flow regimes. No bends, deep pools.
W-03-056	Marshy.
W-03-057	Spoil material from cleanout on top of dikes. Culverts upstream perched 0.2 m. Culverts downstream embedded in bottom of drain. Downstream south side diked.
W-03-058	Mostly grasses and some small trees and shrubs along the banks. Virtually no riparian zone width as field is cultivated to the bank. Mostly marsh habitat in reach.
W-03-059	Recent rain.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-060	Large sprayer parked near reach. Concrete bridge with two channels. Completely overgrown, especially upstream from bridge. Fields cultivated to banks both upstream and downstream.
W-03-061	Lots of canopy, deadfall, woody debris. Crosses PTH #2 just east of Treherne and PR #242.
W-03-062	Large culverts. Short manicured lawn downstream from culvert. Hay bales placed in pool. Downstream area fenced. Bank slump and exposed banks upstream from crossing. Manicured lawn upstream from crossing on right bank.
W-03-063	Unmapped drain. Not on Designation of Drains map.
W-03-064	Many dead trees along right bank, downstream from crossing. Uniform slow/deep flow regime. Would have been good fishing, but impossible because of depth and vertical banks (~1.8 m). Clay, very slippery bottom. No riffles, many bends.
W-03-065	Problems with electrofisher. Used a dipnet to make fish collection. Two culverts. Some bends in reach. Vegetative bank protection shrubs and grasses.
W-03-066	Large culverts 3.5 m in diameter. Very hilly country. No cropland in immediate area. Natural meanders and bends. Riffles associated with culverts.
W-03-068	Unmapped ponded area. No flow. Marsh habitat. Manicured lawn along PTH #23.
W-03-069	Released four White Sucker. (Lengths: 144 mm, 140 mm, 135 mm, 130 mm) Clam caught. Bridge has steel piles and treated wood abutments. No riffles, bends only. Grasses and shrubs dominate riparian zone. Beaver dam.
W-03-070	Blind sweep 10 m inside culvert, 12 shiners caught. This sample separated from electrofishing sample. Downstream end of culvert perched 0.3 m. A lot of woody debris jammed upstream from culvert. Culverts ~ 3m diameter, and are rusted. Loose geotextile.
W-03-071	Concrete box culverts and bridge. West of Perimeter Hwy (PTH #101).
W-03-072	Electrofishing effort was 200 sec x 100 m. No fish caught, saw crayfish and freshwater shrimp. Low flow. Mean width of channel 1.5 m. Small pool downstream from bridge, old posts sticking out of pool. A lot of aquatic vegetation in pool downstream from bridge. A lot of cattails upstream from bridge.
W-03-073	Too deep to fish mid channel. Fished edges of emergent vegetation. Crossing PR #210 at Town of Ste. Anne.
W-03-074	Runs into Seine River. Located north of PR #405. Little standing water, low flow, some submerged vegetation.
W-03-075	Dry. Streambed overgrown with grasses.
W-03-076	A lot of standing water. Thick cattail debris.
W-03-077	Electrofishing effort was 403 sec x 200 m. No fish caught. Looked like good habitat. Three deep pools in reach. Lots of submerged vegetation and woody debris. Remnant beaver dam downstream from bridge. Canopy of trees downstream of bridge.
W-03-078	Upstream gated culvert closest to bridge open 85%, upstream gated culvert farthest from bridge open 15%. Downstream: right bank undercut, some slumping evident, large boulder field.
W-03-079	Two large bodied fish observed, but could not catch. Fence crosses west 2nd order, see diagram. Sand bottom. Two bridges,
W-03-080	Upstream channel lined with vegetation and undercut banks. Downstream from culvert (perched 0.2 m), fast moving water, cobble field continues to fence. Right bank has undercut banks. One metre downstream of culvert a broken wooden sign lies in stream forming plunge pool.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-081	A lot of cattails and other vegetation upstream from culverts. Low flow, mud bottom. Appears to have been cleaned recently?
W-03-082	Gated culvert southeast corner is larger than rest.
W-03-083	Dry except for one standing pool ~0.3 m deep. Sand bars. Exposed mud banks present.
W-03-084	Fields cultivated to stream bank. Pool has relatively hard, stable bottom. Streambed is mostly covered by submerged vegetation. Upstream trees and shrubs line banks, while downstream fields run to edge of bank. Uniform depth. Max 0.6 m in pool. No riffles, three bends in reach.
W-03-085	Dry upstream and downstream from bridge, with the exception of one algae covered pool upstream from bridge.
W-03-086	Two main culverts of D-20 Drain wrapped in geotextile fabric. Water surface completely covered by algae. Downstream only one small pool free of algae cover.
W-03-087	Blind sweep effort over 100 m. A lot of emergent vegetation (cattails) and submerged vegetation. Majority of catch include tadpoles and invertebrates. Depth uniform shallow. No riffles, three bends. Three culverts and one gated culvert. Downstream from culverts (10 m) has areas of minor bank erosion.
W-03-088	Max depth in pools 1 m. Slow moving. Sand bottom. Downstream from culverts is sand plume (deposition below three culverts. Slow/shallow, slow/deep flow regimes. No riffles. Sand deposits on both banks. Grasses and shrubs along banks.
W-03-089	Carey Drain (3rd order) which runs perpendicular to PR #205; 2nd order drain joins from the east which runs parallel to PR #205. Located 1 mile west of town of Carey.
W-03-090	Otterburne East Drain (3rd order, downstream) runs perpendicular to PTH #59, 2nd order (upstream). Unnamed 2nd order runs perpendicular to Otterburne East Drain (from north). Very little flow. Small riffle less than 0.2 m deep.
W-03-091	Very marshy. A lot of aquatic vegetation.
W-03-092	Upstream: shallow, fast moving, bottom is rock and gravel in riffles. Downstream: stream bottom is mud with gravel and sand bars. Thalweg meanders through center of channel.
W-03-093	Upstream: right bank is diked, old growth, almost completely overgrown. Riffles free from instream vegetation. A lot of emergent (cattails, bulrushes) and submerged vegetation. Mainly channelized but good habitat. Riparian excellent. No deep/ fast flow regime. Box culvert in concrete bridge. Uniform depth 0.4-0.6 m.
W-03-094	Beach seine haul was 100m x 8m, downstream from culvert. No fish caught. Not a mapped drain. Circled approximate area on map. Runs perpendicular to PTH #44, 2 miles west of Rennie. A lot of shrubs and native grasses. Submerged vegetation throughout reach.
W-03-095	Railway ties across 2 culverts. No fast/ deep flow regime. Located 2 miles west of Rennie, crossing PTH #44.
W-03-096	No fish caught. Heavy aquatic vegetation throughout reach. A lot of organic deposition in pools. Cement culver.
W-03-097	No fish caught. Saw very tiny minnows, could not catch. A lot of overhanging vegetation. Riffles caused by debris jams and channel constrictions. A lot of rock substrate. No fast/ shallow flow regime.
W-03-098	Debris and debris screen on upstream end of culvert may limit passage of larger fish. Riparian condition excellent. Flow regime slow/ deep and slow/ shallow.
W-03-099	Two cement box culverts. Large cement culvert under railway. No apparent flow. Standing water.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-100	Fishing effort discontinued because of thunderstorm. Upstream lots of cattails and submerged vegetation. Two culverts. No riffle. Exposed banks. Left bank to road edge = 1 m. Located 1.5 mile south PTH #15.
W-03-101	Local said that wells were dry prior to recent rains (June 17th). Riffles caused by constricted channel and instream vegetation. Max. channel width = 0.5 m. No fast/deep flow regime. Two culverts, drain is flowing through one only. One deep narrow pool in reach.
W-03-102	1st order upstream, 2nd order downstream (according to map).
W-03-103	Culverts 2 m diameter, embedded in streambed. Cannot fish, as the trickle of flow percolating through boulders and rocks. Stream width less than 0.3 m. Nice habitat, with a lot of overhanging vegetation downstream of culverts.
W-03-104	No fish caught. Upstream of riffle long grasses providing cover. A lot of embedded cobble and rock in pool upstream of culvert. One culvert. Cobble and rock common throughout reach.
W-03-105	Off PR #406.
W-03-106	Unmapped field drainage. Completely dry. Vegetation choked.
W-03-107	Concrete box culvert 5 m high. Good vegetative bank protection, trees shrubs and tall grasses. Overhanging vegetation and trees. Farms either side of stream on upstream side. Moderate flow. PTH #44 diked 25 m above. Diverse habitat. Some bank slump downstream on both banks.
W-03-108	No flow. Small pools upstream and downstream from culvert.
W-03-109	One mile north of River Hills.
W-03-110	Downstream both banks eroded with exposed mud banks. Turbulent flows (riffles) caused of woody debris. Deeply embedded cobbles. Three culverts. two miles east of PTH #11. Runs under gravel road.
W-03-111	Slow/ shallow flow regime. Many bends, no riffles, no pools. Uniform depth.
W-03-112	Local knowledge: Stream permanent. Floods can be significant even after one day of rain. Large fish don't usually use this drain. In 1997 flood drain was ~50 m wide. Fast/ shallow and slow/ shallow flow regimes present. Two culverts perched 0.2 m.
W-03-113	Flooded. Recent rains June 21 and 22. A lot of instream vegetation. Small dike and road provides barrier. One bridge, three gated culverts. No riffles, channelized. Grass banks. Uniform depth.
W-03-114	No fish caught. Effort discontinued because of heavy instream vegetation (reeds), could not walk through with electrofisher. Local knowledge: bullheads, Northern Pike, suckers have been caught here. Uniform depth.
W-03-115	No flow. Marsh habitat.
W-03-116	Barbed wire attached to bridge (upstream side). Cows have direct access to river. Downstream side grass overhangs banks High water due to recent rains June 21 and 22. Can see lots of minnows from bridge. No access to river because farmer has completely fenced.
W-03-117	Marshy, No flow. Downstream a lot of woody debris instream.
W-03-118	No flow. Marshy. Downstream side no flow, small pools (~10 m long and 3 m wide). PR #205 provides dike on north side. Stream runs parallel to PR #205.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-119	Slight trickle of flow downstream of culvert. Upstream side instream vegetation completely fills the channel. 2nd order runs into Tourond Creek.
W-03-120	Choked with vegetation. Dry. A lot of cattails. Culvert completely overgrown. No standing water.
W-03-121	Dry. Diked east side (road side).
W-03-122	Dry. 2nd order runs into 3rd order.
W-03-123	Dry.
W-03-124	Pool 0.5 m across on upstream side of crossing. Downstream looks very overgrown with shrubs, possibly dry for extended periods of time. Diked on road (east) side.
W-03-125	Many culverts and roads. Culverts go under grass meridian of PTH #7, emerges on either side, then crosses PTH #7 running perpendicular to the 2nd mile road from Perimeter (PTH #101). Pools shallow, filled with instream vegetation.
W-03-126	Dry upstream and downstream of crossing. Major hydro lines in this area. Lightly raining.
W-03-127	Dry. Field goes to edge of bank on downstream side. Reach is located at RM of Woodlands and Rockwood boundaries.
W-03-128	Dry.
W-03-129	Upstream: appears new grass seeded, starting to germinate. Downstream: lots of growing grasses, and well established native grasses.
W-03-130	A lot dense mats of instream vegetation in pools. Pools upstream and downstream of bridge. Dry patches upstream and downstream 20 m either direction from pools. 2nd order runs into 5th order (Grassmere Creek).
W-03-131	Downstream side completely filled with instream vegetation (cattails, bulrushes). Dry 10m upstream and downstream of culverts. Marshy area upstream and downstream of culverts up to 10 m either direction.
W-03-132	Many culverts and roads. Culverts go under grass meridian of PTH #7, emerges on either side. Pools shallow, filled with instream vegetation. Crosses PTH #7.
W-03-133	A lot of rainfall on June 25th is the only reason for little water in drain. Earlier in day on June 25th drain was dry, therefore no point to fish. Isolated pools upstream x 3 and downstream. Mud road east side provides dike.
W-03-134	Water level is down 0.5 m. Max water depth 0.2 m. Dense growth of vegetation in stream. Mud road acts like a dike for 2nd order drain.
W-03-135	Gated culverts open. No flow. Dry. Upstream: instream vegetation (cattails). Downstream: a few unconnected pools, most likely due to recent rains, June 25th.
W-03-136	All culverts are corrugated metal except the second most northern ones, which are concrete. The concrete culverts are more embedded than the metal ones. The third east-west culvert is very close to the road (Northumberland Rd), which provides a natural dike.
W-03-137	No flow. Dry. Upstream side: small pool 1 m^2. Diked on one side (north side road).
W-03-138	Downstream side: emergent vegetation scattered throughout. Only 0.2 m deep upstream.
W-03-139	A lot of instream vegetation (cattails). No flow. Deep standing pool under bridge, dry 10 m upstream and downstream of pool except for several other unconnected standing pools. Crosses PTH #44, 0.5 miles west of Lockport.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-140	Shallow (0.1 m) standing water. Crosses PTH #8.
W-03-141	Could not electrofish or beach seine because of very dense instream vegetation and filamentous algae. Dip-net sweeps in open areas.
W-03-142	Junction of Parks Creek with Bruneau Drain and unnamed 2nd order drain. Bruneau Drain has shallow (0.1 m) pools. Unnamed drain is dry. Grassed banks with a few shrubs.
W-03-143	Electrofishing effort limited by dense instream vegetation (cattails) in channel. Standing pools only with a trickle of flow. Closely mowed lawn at boulevards and to stream bank on upstream side of crossing.
W-03-144	Upstream of crossing is diked both sides. Downstream: not diked. Flow regime fast/ deep and slow/ deep. Three bridges in view. Channelized. Banks moderately unstable.
W-03-145	Dry. Channel is densely vegetated with cattails. Not diked.
W-03-146	Water level recently dropped 0.5 m. Downstream from crossing substrate in riffles are quite embedded. No fast/deep flow regime. two bridges. Deep pools below riffles.
W-03-147	Only a few inches of standing water downstream. A lot of submerged vegetation throughout. Culvert #1 is dry, surrounded by mud and grasses. Cultivated fields surrounding drains. Small shallow pools upstream. Boulders and cobble armouring on upstream ends of culverts.
W-03-148	Little to no flow, one shallow pool downstream culverts. A lot of submerged vegetation. Few standing pools upstream side. Exposed mud banks upstream and downstream of crossing. 1st order runs into 3rd order then into Whitemouth River 1 mile west. Upstream: diked both sides. Downstream: diked road (north) side.
W-03-149	Downstream: shallow, dense vegetation. Upstream: Dry. Overgrown. On northwest side deposition of sand and gravel. Some areas exposed soil on northwest bank. Diked roadside.
W-03-150	Local knowledge: talked to local drain on Colony land, local's land adjacent to this. He has seen minnows in this drain before. Channelized. Diked north side. Two culverts. Two riffles (turbulent flow constrictions), no bends in reach. Long grasses and wildflowers on banks.
W-03-151	Flooded due to recent rains June 28 and 29. Firm gravel and silt bottom. A lot of instream vegetation. Moderate sediment deposition on inside bends, small areas of bank scour on outside bends, center of channel rocky with little sediment deposition.
W-03-152	Nice habitat. Observed lots of minnows. Flooding due to recent rains. Lots of submerged vegetation (entire stream). Crosses PTH #15 east of the town of Norse.
W-03-153	Excellent habitat and riparian zone. Many minnows observed as well as larger fish. Very flooded due to recent rains (June 28, 29). Crosses PTH #15.
W-03-154	Effort for fishing - Local minnow catchers gave us samples because we would not have been able to fish this one due to depth (~ 2.0 m) and soft bottom). Fishing effort called dip-net sweeps in "minnow trap" in sample # W-03-154.
W-03-155	Could see a lot of fish (larger and smaller) but unable to catch. Tried bumping up volts, frequency and cycles with little success. Metal quad crossing on downstream side (north of westbound PTH #1). Crosses PTH #1.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-156	Unmapped small standing pool upstream side of crossing. Marshy habitat downstream with dense algae, pondweed, cattails and other aquatic vegetation.
W-03-157	Unmapped. Pools are very shallow. Small culvert southwest is perched 0.3 m, Large culvert (north-south) perched 0.1 m above pool. Water levels dropped 0.5 m. Diked roadside upstream, not diked downstream.
W-03-158	Slow/deep and slow/shallow flow regimes present. Channelized, two culverts. No riffles, no bends in reach. Diked west side. Crosses PR #507.
W-03-159	Water levels recently dropped 0.5 m.
W-03-160	Excellent habitat. Water levels down 0.3 m. Riffles from instream vegetation/woody debris.
W-03-161	Nice habitat. Little to no alteration. One bridge. Completely surrounded by marsh and flooded land. Water is down 0.3 m from earlier levels.
W-03-162	Local knowledge: Numbers of fish have significantly declined in the last 30 yrs. Suckers were prevalent in the past, now cannot be found due to salt from highway or Chlorine from Winnipeg. Aqueduct. Neighbour used to net suckers in the spring.
W-03-163	Water levels recently dropped 0.3 m. Shallow around bridge, then steep drop off into scour pool. Crosses River Road west of Braintree, south of PTH #1.
W-03-164	Cannot access drain because farmer has completely fenced. Flowing slightly. Crosses PTH #11/44 2.5 miles north of Whitemouth.
W-03-165	Water levels down 0.3 m. No fast/deep flow regime. One cement culvert. Several riffles and bends in reach. Right bank eroded upstream side of crossing. Adjacent lands are cultivated fields and pasture.
W-03-166	Upstream: standing pool with cattails, dry 5 m upstream. Downstream: Mostly dry with marshy pools.
W-03-167	Strong chemical smell in the drain. Good habitat downstream side (less human impact). Agricultural field 6 m from drain bank upstream side. A lot of farm activity upstream side. Max pool depth 0.7 m. Slow/ deep flow regime present. Box culvert,
W-03-168	Two miles south of Power House, runs into Whitemouth River.
W-03-169	Southeast (small) culvert perched 0.2 m trickling into small pool. Two shallow pools upstream (max depth 0.2 m). Bank erosion.
W-03-170	Confluence of two 1st order tributaries. Crosses PTH #11 and becomes 2nd order. Dry except for standing pool that is surrounded by instream vegetation and completely fenced off.
W-03-171	Trickle of flow only. Upstream side, small pool 0.5 m wide. Downstream side small pool 0.5 m wide. Parallel to PR #211 (upstream) crosses PR #211 (downstream).
W-03-172	Could not fish because far too deep, vertical drop from banks. Trees provide canopy over stream. Pool upstream is 0.8 m deep (inaccessible for fishing because of overhanging vegetation and woody debris). Downstream very deep could not seine because of straight drop off at water's edge and debris. Dominated by slow/deep flow regime.
W-03-173	Downstream side: north culvert is perched 0.1 m but is flowing; south culvert has no flow but is embedded and wetted. Crosses PTH #11, runs into Winnipeg. River.
W-03-174	Dry. Grasses and shrubs in channel.
W-03-175	Channel is overgrown with grasses.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-176	Two box culverts. Severe bank erosion and bank slump present along upstream banks. Bottom is primarily soil (due to banks falling in?). Crosses PTH #12, 5.5 miles west of Middlebro.
W-03-177	Culverts are grown over. Parallel to PR #332, 0.5 miles north of Starbuck.
W-03-178	Completely dry and overgrown. 1 mi northwest of Starbuck.
W-03-179	Two miles northwest of Starbuck
W-03-180	Submerged vegetation throughout. Lots of woody debris both submerged and on surface. No flow apparent.
W-03-181	Complex Habitat at the confluence of two tributary drains (2nd order).
W-03-182	No flow, standing pools only. No riffles, three bends in view. Banks are grassed.
W-03-183	Diked roadside (19W, Dakota School Rd.).
W-03-184	Standing pool under bridge. Dry upstream and downstream from crossing.
W-03-185	Mainly mud bottom with extensive root mat and submerged vegetation. Standing water with little visible flow. Channelized, five culverts under PTH #2, three culverts and bridge under rail line. No riffles, two bends in reach. Some exposed mud banks although mostly grass covered.
W-03-186	Water quality was done in standing pool. Water levels appear to have dropped 1.0 m. Bank slump and undercuts present along each bank. Soils exposed on each bank. Standing pools only; no flow. One bridge. Many bends.
W-03-187	Dry. A lot of vegetation in the channel.
W-03-188	Slow water movement Maximum depth 0.6m. Low flow.
W-03-189	Max depth 0.7 m at center of channel downstream side (between culverts and bridge). Both sides diked upstream, not diked downstream. Slow/shallow flow regime. Water levels down~0.6 m. Channelized, one bridge (PR #248), and two large culverts. No riffles, one bend in reach.
W-03-190	Piney West Drain: 3rd order, upstream side has a standing pool above and below the culvert. Dry beyond, no flow.
W-03-191	One Walleye (approximately. 5") got out of net. Fished downstream side of bridge. Moderate cattle impacts (trails, crossing, manure. trampled banks) along both banks. Cows cross on riffle.
W-03-192	Diked on roadside of drain only. Dry. No flow.
W-03-193	Significant vegetation growth in channel, mostly grasses. Small pool below culvert.
W-03-194	Two salamanders caught, 1 foot in length, released. Simple habitat. Bridge well armoured with cobble and small boulders.
W-03-195	Problem with dissolved oxygen meter. Some flooding into riparian area. Cobble armouring around bridge. Many bends, no riffles. Very soft bottom.
W-03-196	Two smaller tributary drains join on the south side of the gravel road and flow through culvert along north side of road. Pool (0.1 m) and no apparent flow.
W-03-197	Turbulent areas created by organic debris, channel constriction. Nice habitat with cover provided by overhanging vegetation, woody debris, instream vegetation, undercut banks. Some areas of eroded mud banks exposed on both banks. Nice complex habitat. Crosses PTH 1#2, southeast of Sprague (1.5 mile).

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-198	Slow/ shallow flow regime missing. Bridge crossing. Downstream turbulent areas created by woody debris and vegetation. Deep (> 1.0 m) pools. Deeply undercut banks. Firm gravel substrate with significant organic debris.
W-03-199	Large culvert, 70% submerged. Very deep pools with no apparent flow. Slow/deep flow regime. Natural, complex habitat.
W-03-200	Dense grasses throughout channel. Standing, stagnant pools. Oily sheen on surface.
W-03-201	Water depth recently dropped 0.3 m. Bog/marsh habitat dominates surrounding area. Nice, complex habitat, low to no visible flow, mostly standing water, dominated by slow/deep flow regime. Grate over culvert. No riffle habitat. Frequent bends.
W-03-202	Culverts perched 0.1-0.2 m. Little flow. Shallow pools (maximum depth 0.3 m). Nice habitat, complex, but little water. Located 1.5 miles southeast of St. Labre.
W-03-203	Upstream side of crossing has some areas of exposed mud on banks. Frequent sand and gravel bars. Very little flow. Mostly shallow pools (0.2 m). Downstream side, exposed mud on both banks. Rocks piled across channel 10 m downstream from culvert create a shallow pool (0.2 m).
W-03-204	Fishing effort discontinued because of extremely soft bottom. Submerged vegetation throughout pool. Slow/shallow and slow/deep flow regimes. Two culverts in crossing. No riffles in reach.
W-03-205	Upstream side of crossing both banks are bare, exposed mud. Marshy. Two well armoured culverts. No riffles or bends within reach.
W-03-206	Water depth recently dropped 0.5 m. Thalweg meandering within banks. Slightly undercut banks. No riffles, 1 bend in reach. Grassed banks. Diked on both banks.
W-03-207	Upstream: Dry. Bare mud. Downstream one pool (8 m x 2 m) at culverts. Dry beyond pool. Diked on both sides.
W-03-208	Pool under bridge and downstream of bridge (5 m wide). Diked on both sides. Unnamed tributary flows west into northbound Hazelridge drain as it turns and flows west under PTH #12.
W-03-209	Dry. Terrestrial vegetation throughout inactive channel upstream and downstream of crossing.
W-03-210	Water level down 0.6 m. Both banks have exposed mud areas. Downstream shallow riffle at box culvert. Upstream: max depth 0.2 m. Slow/shallow and fast/shallow flow regimes. Channelized. Cement box culvert. Vegetative bank protection is dominated by grasses.
W-03-211	Twenty-two Northern Pike (75-150mm) collected. Released 20. Water level recently dropped .3 m. Slow/deep and slow/shallow flow regimes present. Channelized. Two large culverts. No riffles and no bends in reach
W-03-212	Dry. Diked on both sides.
W-03-213	Dry. Cattails throughout drain. Diked on both sides.
W-03-214	No flow, One small pool downstream of crossing. Streambed consists of exposed mud. Diked on both sides.
W-03-215	Water level recently dropped 0.7 m. Soil exposed on both banks. Local knowledge: Common Carp, Northern Pike, suckers and perch use this creek. Water levels higher than normal - water from southeast corner of Manitoba.
W-03-216	No flow, some standing pools. Exposed mud banks. Diked both sides.
W-03-217	Crosses PR #206.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-218	Vegetation completely fills channel. One small algae covered pool downstream of culverts. Dry upstream and downstream from the pool. Diked both sides.
W-03-219	Upstream (north drain) has on shallow standing pool.
W-03-220	Recent rains this morning and for several days previous.
W-03-221	Dry. Three culverts in crossing, two are corrugated metal pipes and one is concrete. Diked roadside.
W-03-222	Dry. Channelized. Runs into the Icelandic River. Moderately dense vegetation in the dry channel. Diked both sides downstream of culverts. Diked on roadside upstream of culverts.
W-03-223	Five Northern Pike caught. Recent rains. No flow, with very little standing water. Pool downstream of culvert maximum water depth of 0.5 m. Exposed dry mud patches. No riffles or bends in reach.
W-03-224	Released 99 Bullheads. Kept a few in the fish collection. Slow/ shallow and fast/ shallow flow regimes present. 2 culverts: 1 metal and 1 concrete. Channelized and diked both sides. No bends. A few areas of turbulent flow created by vegetation constricting channel.
W-03-225	Dry. Recent rains. Completely overgrown with vegetation. Diked roadside. Crosses PR #223 (PR #226 on map). Runs parallel with Framnes Road.
W-03-226	Dry. Four north-south culverts are concrete, east-west gated culvert is corrugated metal.
W-03-227	Shallow, max depth of 0.3 m. Dense aquatic vegetation. Minimal flow, slow movement of water.
W-03-228	Dry. 3 large diameter culverts. Diked on roadside.
W-03-229	No catch. Observed 2 fish, ~ 150mm in length, unable to collect. Water temperature (10C) very cold, perhaps spring fed. Two parallel drains created to mitigate flood hazard? (DES Map is not accurate 2 extra 3rd order channels on either side of unnamed 3rd order are not mapped).
W-03-230	Dry. Diked roadside. Junction of two 2nd orders upstream to make 3rd order downstream at junction of PR #329 and PR #326.
W-03-231	Dry. Grasses throughout channel. Diked on both sides.
W-03-232	Dry. Exposed soil in upstream bed and on right bank upstream. Diked on roadside.
W-03-233	Dry. Overgrown with grasses. Channelized and diked on both sides.
W-03-234	Dry.
W-03-235	Vegetation throughout channel. Marshy, little to no flow. Bank scour downstream of box culverts right bank and left bank. Diked on both sides.
W-03-236	Upstream: 1 shallow standing pool. Downstream is dry. Huge metal arch culvert like a bridge. Dikes hayed.. Diked both sides.
W-03-237	Released 6 White Sucker ranging (150 to 200mm). DO meter problem. Cover provided by overhanging vegetation and submerged vegetation. Three of four regimes present, fast/ deep missing. Flooded upstream of beaver dam
W-03-238	Released 3 Rock Bass (120 mm, 20 mm, 110 mm). Three of four velocity regimes present, fast/ deep missing. Flooded backwater pool upstream from bridge.
W-03-239	Released 4 Northern Pike (200mm, 170mm, 150mm, 150mm). **Local Knowledge: spring fed. Fast/shallow and slow/ deep regimes present. Channelized upstream side only. Two culverts in crossing. four riffles and two bends in reach.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-240	Dry. Terrestrial vegetation / shrubs throughout channel. Shurkas Drain enters river at this point. Diked on both sides.
W-03-241	Shallow pools upstream and downstream of culverts (0.2m deep). Cobble and boulders throughout channel. Diked roadside (left bank).
W-03-242	Standing water upstream and downstream, completely covered with duckweed. Perched gated culvert. Manure pile 5 m from right bank. Little to no water movement. Stagnant, standing water. Runs into Washow Bay Creek.
W-03-243	Too deep to fish, major waterway. Runs into Lake Winnipeg.
W-03-244	Marshy habitat upstream and downstream of crossing. Many bulrushes. Little to no flow. Gated culvert on inflow is closed. Diked on both sides. Runs into Lake Winnipeg.
W-03-245	Diked on both sides.
W-03-246	Dry upstream. Marshy downstream. Diked roadside (left bank).
W-03-247	Water level recently dropped 1.0 m. Exposed mud banks. Bank slump upstream, both banks and downstream right bank. Instream vegetation throughout upstream and downstream of bridge. Very thick instream vegetation downstream side. Water levels too low otherwise banks would be undercut. Many submerged logs downstream. Slow/shallow and slow/deep flow regimes present.
W-03-248	Water levels recently dropped 0.6 m. Slow/shallow flow regime only. Channelized. Three culverts in crossing. Grasses line banks. Garbage in the drain. Diked roadside.
W-03-249	Water levels recently dropped about 1.3 m. Little to no visible flow. Slow/shallow flow regime present. Channelized, diked both sides. Rocky bottom upstream and under the bridge. Vegetative bank protection consists of grasses, shrubs, and trees. Good riparian conditions.
W-03-250	Dry, vegetation throughout channel. Diked both sides.
W-03-251	Substrate >75% embedded upstream side. Slow/shallow and fast/shallow flow regimes present. One small riffle downstream of bridge, one culvert under bridge, three gated culverts on inflows. Diked on both sides. Vegetative bank protection consists of grasses only. Mud dominant substrate in pool.
W-03-252	Dry. Very overgrown. Diked roadside. Poplar forest on both banks.
W-03-253	Dry. Lots of cattails in the channel.
W-03-254	Downstream: pool filled with vegetation. Diked both sides. Upstream: Marshy. Diked roadside. One culvert, one closed gated culvert.
W-03-255	Too deep to fish. Exposed mud banks.
W-03-256	Two culverts, one gated culvert, and one wooden bridge. Small culvert running north-south is perched 2 feet above pool and sits higher than large culvert (which is embedded). Sixteen metre long pool starting upstream going under bridge and ending downstream. (Downstream pool 4 m x 0.5 m) Pool depth about 0.5 m.
W-03-257	Dry on upstream side of crossing. Dense instream vegetation. Pool downstream culverts 10 m x 12 m. Diked both sides.
W-03-258	Dry. Completely overgrown with cattails. Diked both sides.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-03-259	Too deep to fish. Upstream side of crossing water level is about 1.5 m higher than downstream. Backed up by perched culvert. No flow.
W-03-260	Very soft bottom - not fishable at this point. Dense submerged vegetation mats. No flow is evident.
W-03-261	No flow, standing shallow pools. Downstream: 5 m x 8 m standing pool. Diked both sides. Crosses Meadowdale Road, 4.5 miles south of PR #515.
W-03-262	Trickle of flow, standing shallow pools. Six culverts, two running east-west for Dewar Drain, four running north-south for ditches. two on either side of PTH #8.
W-03-263	Dry. Terrestrial grasses throughout channel. Diked both sides upstream, road (east) side downstream.
W-03-264	Dry. Long grasses throughout channel.
W-03-265	Dry. No defined channel upstream of crossing. Diked both sides downstream of crossing.
W-03-266	No fish caught. Electrofisher kept shutting off because of high conductivity. Strong mineral smell in drain. Three natural springs in immediate area. Slow/shallow flow regime dominant. One culvert in crossing. Channelized with one bend in reach. Diked on both sides.
W-03-267	Two Northern Pike released (both 230 mm total length). Three springs in immediate area. Dominated by slow/deep flow regime. Channelized, and diked both sides. Two human made bends in channel. Vegetative bank protection consists mainly of long grasses and wild flowers.
B-04-001	No flow. Standing pools only. Grassed banks.
B-04-002	Site just north of access road for Perimeter Highway No flow. Grassed banks.
B-04-003	Released one White Sucker (490 mm) - in rough shape (spent) and one ripe Northern Pike (520 mm).
B-04-004	Site south on dike from PTH #67. Very little flow except from the small corrugated metal pipes draining the field.
B-04-005	Both banks mowed.
B-04-006	No flow, standing pools only. Starting to meander within dikes. Several dead White Sucker and Yellow Perch washed up under bridge.
B-04-007	Moderate growth of cattails in stream. No flow.
B-04-008	Lots of woody debris blocking corrugated metal pipes at upstream end of crossing and at many points on channel Numerous beaver dams are present.
B-04-009	Dry except for a couple small pools.
B-04-010	Recent cleanout downstream of bridge, no instream vegetation, no vegetative protection in ditches to the north.
B-04-011	Marshy area, lots of submerged vegetation. Cultivated fields on both sides of the drain. No catch but looks like good Northern Pike spawning habitat.
B-04-012	Estimated 300 to 500 White Sucker spawning on the riffles created by the gradient control structure.
B-04-013	Reach located one mile upstream from a White Sucker spawning riffle. Some White Sucker on site. Natural section of stream.
B-04-014	Large riffle present and spawning suckers are present on the riffle and upstream.
B-04-015	Spawning suckers on riffle of gradient control structure.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-016	Large riffle (approximately 150 m long) with good flow. Spawning White Sucker present.
B-04-017	Local knowledge: local says stream flows all year. Riffle was constructed by his neighbour. A dam is present about 1/2 mile downstream to maintain water for potato crop irrigation. Mainly slow/ deep flow and fast/shallow flow regime. Good riparian area with all age classes of woody vegetation including decadent trees.
B-04-018	No flow, standing pools only. 1/4 mile upstream from confluence with La Salle River. Evidence of very high water in the past. Cultivated fields surround drain south of bridge. Much healthier riparian area upstream of crossing. Mainly a soft bottom.
B-04-019	Two large perched corrugated metal pipes (3 m diameter). Cultivated fields on both sides. Maximum pool depth 0.5 m.
B-04-020	One 3 m diameter corrugated metal pipe. Slight trickle of flow from recent rain, mostly standing pools. Heavy silt deposition.
B-04-021	All slow/ shallow flow regime. Released a Black Bullhead (170 mm).
B-04-022	Organic substrate.
B-04-023	No flow, very shallow standing pools only. 3 corrugated metal pipes (0.3m) diameter.
B-04-024	No flow. Three corrugated metal pipes armoured with gabion baskets on upstream end of culverts.
B-04-025	Dry, no flow. Channel has been mowed. 2-0.9 m diameter corrugated metal pipes and one-lower set of 0.4 m diameter corrugated metal pipes.
B-04-026	Released three bullheads (170 mm, 125 mm, 125 mm). Evidence that water level was much higher in early spring.
B-04-027	Released 2 Quillback (403mm, 424mm). Past flooding evident and high cut banks on left. Good meander sequences.
B-04-028	Released 250 bullheads (60 mm to 100 mm), one (520 mm) Northern Pike. Three corrugated metal pipes about 50 m long and 50 cm diameter. Local knowledge: Local mentioned that Walleye have been caught downstream in spring and that this Diversion usually dries up
B-04-029	Newly constructed channel.
B-04-030	Mowed to about 6 m from stream. Lots of instream vegetation. Good flow conditions.
B-04-031	Severe cattle impacts on upstream banks. No catch.
B-04-032	Pasture upstream of crossing.
B-04-033	Moderate cattle impacts to banks. Inflow from tributary to south is perched.
B-04-034	No flow, standing pools only.
B-04-035	Almost no flow. Two corrugated metal pipes perched about 1 m. Moderate cattle impacts. Some bank erosion. Good canopy.
B-04-036	No flow, standing pools only.
B-04-037	Pasture north of crossing. Natural section of stream south of crossing. Trickle of flow. Washed our low level crossing on closed road.
B-04-038	Low flow through small diameter corrugated metal pipes.
B-04-039	Hundreds of adult White Sucker congregated in pool below water control structure outlet. No fish passage is possible but fish still trying to go farther upstream. Weir on Pembina River upstream about 200 m directs flow back through diversion.
B-04-040	No flow. Standing pools only. Two corrugated metal pipes 1.5 m in diameter. Marsh like conditions. Pasture on both sides of the drain.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-041	Marsh habitat. No catch. Low flow.
B-04-042	Trickle of flow. Cattle have access to stream downstream of crossing.
B-04-043	Mostly cobble substrate. Very little flow.
B-04-044	Local knowledge: local says that suckers and Northern Pike used to come up into stream. Cover provided mainly by undercut banks.
B-04-045	Four corrugated metal pipes (1 m diameter) perched 0.2 m. Good riffle habitat upstream and downstream of crossing. Flow velocities (m/s) through culverts (inlets, outlets): #1 (0.62, 1.15), #2 (0.42, 1.53), #3 (0.36, 1.41), #4 (0.36, 1.11).
B-04-046	Released two Creek Chub (135 mm, 170 mm). Culvert perched 1 m. Cattle impacts upstream of crossing, eroded banks downstream of crossing.
B-04-047	Five, 2 m diameter corrugated metal pipes in crossing. Good riffle pool sequences. Significant scour holes. Minor bank scour. Diverse habitat.
B-04-048	Low flow. Heavy shale deposits. Beaver dam downstream of crossing.
B-04-049	No flow. Moderate cattle impacts are evident upstream of crossing.
B-04-050	No flow, channel is dry. Good riparian conditions. Corrugated metal pipes perched about 0.75m.
B-04-051	Dry. Recent snow accumulated in drain.
B-04-052	No flow. Standing pools only. Very narrow riparian zone. Moderate cattle impacts to south and land cultivated to the edge of the banks.
B-04-053	Fairly natural reach with cover provided by overhanging vegetation. Some cultivated areas immediately adjacent to the riparian zone.
B-04-054	No flow. Large marsh to north. Water Survey control structure on the Birdtail River east of reach.
B-04-055	Riffle habitat covered in a dense mat of filamentous algae.
B-04-056	Trickle of flow. Situated about 1 mile upstream from Birdtail River.
B-04-057	Trickle of flow only. Good, healthy riparian area.
B-04-058	Many deep pools present. Lots of log jams and debris dams. Many beaver dams in area. One smooth metal pipe (1.3 m diameter).
B-04-059	Corrugated metal pipes perched 0.7 m. Pond leveler installed. Water backed up by beavers to the north.
B-04-060	Shallow stream with lots of shallow riffles. Moderately heavy gravel and shale deposition.
B-04-061	Corrugated metal pipes perched 0.75 m. Mostly standing water except for plunge pool at the downstream end of the culverts. Lots of overhanging vegetation.
B-04-062	Trickle of flow from recent snow.
B-04-063	Little flow, Mostly standing pools.
B-04-064	Lots of overhanging vegetation and deep pools. Cement box bridge.
B-04-065	Melt water pools from recent snow and rain. No flow.
B-04-066	Mostly standing water. No flow. Channelized. Dense submerged vegetation.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-067	Two corrugated metal pipes (1.3 m diameter).
B-04-068	Diked but meandering within dikes. Quite a bit of woody vegetation along banks.
B-04-069	Outflow from pond 9°C. Larval Northern Pike drifting out of pond.
B-04-070	Site at the point where natural section of stream has been channelized into a ditch.
B-04-071	Standing pools only. No flow.
B-04-072	Newly constructed riffle in mid reach is flooded. Some embeddedness of the riffle in clay deposits.
B-04-073	Suckers trying to move over gradient control structure at Mountain road (some success).
B-04-074	Riffles just east of PTH #5, downstream of major shale trap.
B-04-075	Site with a number of riffles where provincial Fisheries Branch monitors annual Walleye drift.
B-04-076	Slight trickle of flow. Channelized.
B-04-077	Two corrugated metal pipes. Slight trickle of flow. No catch.
B-04-078	Rock armoured crossing. No adult fish caught.
B-04-079	Limited submerged vegetation and overhanging vegetation.
B-04-080	Two - 1.3 m corrugated metal pipes. Broken bales block culvert with a school of Fathead Minnows trapped by the bales.
B-04-081	Three - 1.3 m corrugated metal pipes. No flow with shallow standing pools. Lots of algae and plant biomass in channel.
B-04-082	Three - 1.3 m corrugated metal pipes. Little flow. Some bank slumping to the east.
B-04-083	Quite a number of adult Northern Pike trapped in pool at base of corrugated metal pipes.
B-04-084	Adult Northern Pike stranded in pool at base of two - 1.3 m corrugated metal pipes (one with a crushed inlet).
B-04-085	Stranded adult Northern Pike downstream of corrugated metal pipes and hundreds of larval Northern Pike upstream of crossing.
B-04-086	Released one White Sucker. Channelized section of drain.
B-04-087	No catch in short drift net set.
B-04-088	Just mosquito larvae and Gammarus caught in drift trap. Some flow after rains, but mostly standing water.
B-04-089	No flow, channel not well defined, one corrugated metal pipes - 1.3 m.
B-04-090	Lots of overhanging vegetation. Enough flow to set drift trap.
B-04-091	Much of stream valley has been burnt. No flow. Mostly standing pools.
B-04-092	Pasture to the south. Extensive riffle/pool sequences.
B-04-093	Cattle erosion and heavy grazing have resulted in severe impacts to riparian vegetation.
B-04-094	Recent heavy rains have created high flow. Some beaver activity in area.
B-04-095	Same site as B-04-092 but fished this time.
B-04-096	Marshy, standing pools only.
B-04-097	No flow, standing pools only. Dense growth of cattails.
B-04-098	No flow, some standing pools upstream.
B-04-099	No defined channel. Marshy with cattails and grasses instream.
B-04-100	Water flowing over well grown brome grass indicates that the drain has been dry through most of spring until recent rain.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-101	Major flow from recent rains. Local councilor mentioned that Northern Pike have been known to come upstream from Souris River, but not sure how far upstream they go.
B-04-102	Minor cattle impacts. Marsh vegetation and lots of frogs.
B-04-103	Lots of woody debris at the upstream end of the corrugated metal pipes. Only a trickle of flow.
B-04-104	Mostly standing pools with little flow although water levels are still fairly high.
B-04-105	Flowing from recent rains. Likely it was previously dry.
B-04-106	Flowing from rains, but terrestrial grasses make up only instream vegetation, 2 corrugated metal pipes (0.9m and 0.4m). Fields cultivated to drain edge.
B-04-107	One 2 m corrugated metal pipe. Dammed upstream.
B-04-108	Deep pool at downstream end of corrugated metal pipes, Lots of cattails. Flooded riparian zone. No catch.
B-04-109	Cattle instream and moderate impacts evident in riparian zone. Released two male Fathead Minnow with breeding tubercles.
B-04-110	Site of a Turtle Mountain CD - Sustainable Resource Project. Two corrugated metal pipes (3 m and 2 m diameter) both flattened.
B-04-111	Extremely flooded.
B-04-112	Site at confluence with the Souris River. Very deep pool at PTH #3 crossing.
B-04-113	Local knowledge: local farmer says he used to catch Northern Pike, suckers, and the odd Walleye in the spring.
B-04-114	Good flow from recent rains. Sign on site indicates "Another Turtle River Watershed Conservation District Sustainable Resource Project".
B-04-115	Minor cattle impacts upstream, moderate cattle impacts downstream High water levels due to recent rains.
B-04-116	Stream is quite deep.
B-04-117	Water levels high with some flooding of riparian areas from recent rains.
B-04-118	Flooded with no defined channel.
B-04-119	Severe cattle impacts on banks and cattle fed 10 m from stream. Lots of bank slumping along road.
B-04-120	Very deep pool on downstream side of crossing. Cattle access to stream downstream from crossing.
B-04-121	Severe cattle impacts upstream. Rock armouring placed to stabilize banks seems to be contributing to erosion downstream.
B-04-122	High water. Flooded. No riffles evident.
B-04-123	Sand substrate dominates with some gravel and cobble.
B-04-124	Lots of cattails instream and very marshy upstream of crossing.
B-04-125	Noticed a mink swimming upstream.
B-04-126	Corrugated metal pipes in sections joined by cement. Most of the flow is moving under cement. Released two male and one female Fathead Minnow. Light cattle impacts on banks.
B-04-127	Good flow. Marshy upstream.
B-04-128	Large beaver dam upstream of crossing. Minor cattle and goat impacts downstream.
B-04-129	Lots of flow. Pool downstream of crossing too deep to fish. No catch.
B-04-130	Trickle of flow. Mostly standing pools. Channel is vegetated with cattails, grasses, sedges.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-131	No flow. Lots of standing water. Dense submerged vegetation.
B-04-132	No flow. Two - 1.3m corrugated metal pipes.
B-04-133	Few riffles, lots of pools.
B-04-134	Parts of drain choked with cattails.
B-04-135	Moderate cattle impacts.
B-04-136	Lots of riffles and pools. Quite a wide area to try and electrofish.
B-04-137	Corrugated metal pipes inlet set at control height. No flow.
B-04-138	Marsh habitat. One 1.3 m corrugated metal pipe. Flooded inlets and outlets- no pictures.
B-04-139	Marsh habitat. No flow.
B-04-140	Moderate cattle impacts. Flooded grasses along banks.
B-04-141	Large corrugated metal pipes - Approximately 4 m diameter.
B-04-142	Standing pools from recent rain. Moderate cattle impacts upstream of crossing.
B-04-143	Severe cattle impacts upstream of culvert - stream channel widened and banks bare because of cattle trampling banks and crossing stream
B-04-144	Good riffle/run/pool sequences. Bulrush indicate permanent flow/wetted conditions.
B-04-145	Released one 191 mm Black Bullhead.
B-04-146	Lots of tadpoles.
B-04-147	Corrugated metal pipes at steep incline at inlet - barrier to fish passage. Approx. 200-300 adult Fathead Minnow downstream of corrugated metal pipes.
B-04-148	Little flow. Mostly standing pools.
B-04-149	Had to electro-fish the morning of June 16, 04 because of the heavy rain and hail. Released 26 Black Bullheads from 70 mm to 190 mm. Local knowledge: local says they used to catch Northern Pike here a few years ago, also mentioned Northern Pike were stocked in Crystal Creek near town.
B-04-150	Cormorants fishing downstream of crossing Culvert with cement revetment is perched and presents a barrier to fish passage.
B-04-151	No flow over ford crossing, but some water is flowing under/through the shale crossing. Dip netted many Fathead Minnows.
B-04-152	At location of old ford crossing, road closed because crossing has deteriorated. Turbulent flow over and through crossing is aerating the pool immediately downstream. Moderate cattle impacts upstream of crossing. No catch.
B-04-153	Shale substrate.
B-04-154	Marshy with good flow.
B-04-155	A water survey station located onsite. Weir downstream of bridge prevents fish passage. No catch.
B-04-157	Marsh like habitat.
B-04-158	Lots of water backed up upstream of culvert, downstream of crossing channel is very dry. No flow. Perched culverts.
B-04-159	High water levels.
B-04-160	Too deep to fish. Lots of emergent vegetation along edges. Starting to meander within dikes.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-161	Diked on east side.
B-04-162	Water level too high to fish (at bankfull stage).
B-04-163	Hydrometric station on site. Dense submerged vegetation and floating algae mats.
B-04-164	Lots of submerged vegetation. Deep scour pool. Moderate cattle impacts.
B-04-167	Lots of areas too deep for electro-fishing. Fished the edges. Observed one adult Northern Pike escape beach seine (approximately 400 mm).
B-04-168	Very marshy. No defined channel. Dense aquatic vegetation.
B-04-169	Lots of vegetation instream.
B-04-170	Mostly standing water.
B-04-171	Marsh habitat. Little to no flow. One small corrugated metal pipe through low level ford crossing.
B-04-172	Completely dry. Grassed banks. Poor riparian width. Most likely an ephemeral channel.
B-04-173	Didn't fish because dissolved oxygen was very low. Lots of algae and cattails instream on upstream side of corrugated metal pipes and lots of grasses instream downstream of corrugated metal pipes.
B-04-174	Large (greater than 1.5 m) culvert surrounded by a cement armouring. Released 2 Black Bullheads (150 mm, 185 mm), missed 4 Northern Pike (about 150 mm, 300 mm, 350 mm, and 650 mm). Velocity entering corrugated metal pipes = 1.56 m/s
B-04-175	Moderate cattle impacts upstream of bridge.
B-04-176	Too deep to fish.
B-04-177	Standing pools only. Too deep for culvert inlet/outlet photos.
B-04-178	Too deep to fish.
B-04-179	Marsh like habitat. Low flow. Minor cattle impacts.
B-04-180	Too deep to fish.
B-04-181	Lots of shale, but diverse fish community although no indicator species.
B-04-182	Dry with grasses and cattails in channel.
B-04-183	Dry with grasses and cattails in channel.
B-04-184	Channelized.
B-04-185	Good flow.
B-04-186	Released two White Sucker (210 mm, 400 mm) and 4 Smallmouth Bass (270 mm, 310 mm, 390 mm, and 420 mm).
B-04-187	Released one Creek Chub. Observed one adult White Sucker.
B-04-188	Some slumping on right bank and some sediment deposition on banks.
B-04-189	Lots of riffles and a few deep pools over reach. Very few adult fish present.
B-04-190	Some flow. Culverts (corrugated metal pipes) perched 30cm. Very shallow upstream of crossing.
B-04-191	Diverse habitat but very few fish caught.
B-04-192	Standing pool. No flow.
B-04-193	Channelized, No Flow.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-194	Dry with lots of grasses, shrubs, and trees growing in the drain.
B-04-195	No larger fish caught. Beaver dam at upstream end of corrugated metal pipes is currently acting as barrier to fish passage.
B-04-196	Released two White Sucker (210 mm, 180 mm), and one Common Shiner (130 mm).
B-04-197	Released two White Sucker (180 mm, 200 mm) and one Creek Chub (120 mm).
B-04-199	Ford crossing. Wide riparian zone. Mostly pools with some riffle habitat.
B-04-201	Stream has some flow. Good shading provided by canopy.
B-04-202	No flow, one standing pool upstream. Channel not well defined.
B-04-203	No flow. Beaver dam upstream of crossing.
B-04-204	No flow. Marsh habitat.
B-04-206	Marsh habitat.
B-04-207	No flow. Standing pools. Dense algae growth.
B-04-208	No flow. Canopy.
B-04-209	No flow. Standing pools. Most of the channel in the reach is dry. Good cover provided by canopy.
B-04-210	No flow. Grassed waterway.
B-04-211	Released three Brook Sticklebacks and two Fathead Minnows.
B-04-212	Very high water levels, backed up and flooding willows.
B-04-213	Marsh habitat.
B-04-214	Lots of beaver activity.
B-04-215	Some flow but mostly standing pools.
B-04-218	Lots of beaver activity. Released two Creek Chub (190 mm, 150 mm).
B-04-219	Flowing, but with many beaver dams.
B-04-220	Released one White Sucker (180 mm) and 4 Creek Chub (180mm, 120 mm, 90 mm, and 80 mm). Meanders forming upstream of crossing.
B-04-221	Almost complete canopy cover.
B-04-222	Ditch recently had brush cleared out of it. Upstream of corrugated metal pipes has almost complete canopy.
B-04-223	Fish were not reacting very well to electrofisher settings. Tried a range of settings. High conductivity.
B-04-224	Released one Creek Chub (210 mm). Corrugated metal pipes perched 20 cm.
B-04-225	Cattle impacts very evident downstream. Released one Common Shiner (140 mm). Woody debris blocking culvert inlet.
B-04-226	Trickle of flow through corrugated metal pipes. Lots of pond lilies.
B-04-227	Some flow. Dense submerged vegetation. Large beaver dam 10 m downstream of crossing. Lots of YOY Brook Stickleback. Many tadpoles.
B-04-228	Mostly shallow riffle habitat. Very few pools. Released three Brook Sticklebacks. Missed two larger minnows, possibly Creek Chub.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-229	No flow. Standing pool at downstream end of corrugated metal pipes. No defined channel downstream. Choked with cattails. Released four Brook Stickleback.
B-04-230	Local knowledge: local farmer mentioned that Northern Pike and suckers used to be fished upstream of here using trap nets, but thinks beaver activity downstream is preventing upstream passage in recent years. Three 1.3 m diameter corrugated metal pipes.
B-04-231	Low flow. Dense submerged vegetation.
B-04-233	At junction with Jarosz Drain. No flow. Standing pools. Choked with vegetation.
B-04-234	Some flow but both tributaries are choked with vegetation. Would be useful to fish this in the spring.
B-04-235	Dense cattail growth in channel. Standing pools only.
B-04-236	Dry. No flow.
B-04-237	No flow. Marsh habitat.
B-04-238	Meandering between banks. Substrate gravel and cobble with very little sediment deposition.
B-04-239	Standing water only. Marsh habitat.
B-04-240	Lots of riffles and overhanging willows downstream of corrugated metal pipes. Upstream is pond-like with lots of submerged vegetation. Local knowledge: local farmer said they see Northern Pike in the stream in the spring.
B-04-242	Dry. Standing pool downstream of corrugated metal pipes. Lots of algae. Poor riparian vegetation upstream of crossing.
B-04-243	Standing pools only. Pools very shallow with submerged vegetation.
B-04-244	Riprap (broken cement on banks). Missed netting a couple of large Common Carp.
B-04-245	Upstream side of crossing is choked with vegetation.
B-04-246	No flow. Standing pool at corrugated metal pipes outlets. Drain is choked with cattails.
B-04-247	No flow. Dense vegetation in channel. Reach is in channelized section.
B-04-248	A posted sign states that these waters are closed to fishing between certain dates (not listed).
B-04-249	Pool beneath corrugated metal pipes; channel choked with cattails downstream of pool and also upstream of corrugated metal pipes.
B-04-250	Drain choked with cattails upstream of crossing and submerged vegetation downstream of crossing. Trickle of flow only. No catch.
B-04-251	Did not fish. Very low dissolved oxygen. One standing pool at base of corrugated metal pipes. Remainder drain is choked with vegetation.
B-04-252	Dry. Choked with cattails.
B-04-254	Dry. No defined channel.
B-04-255	Standing pools. No flow. Dense mats of algae.
B-04-256	Extremely low dissolved oxygen in the drain therefore we didn't fish.
B-04-257	Released seven Yellow Perch, 66 young of the year Northern Pike, and one Black Bullhead.
B-04-258	Dry with no defined/active channel.
B-04-259	No catch. Dense growth of cattails on the upstream side of the culverts.
B-04-260	No flow, some standing water.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
B-04-261	Slight trickle of flow. Drain is choked with vegetation and algae.
B-04-262	Lots of water backed up into drain from lake. Wide channel (approximately 50 m) Sign saying "No fishing from bridge".
B-04-263	Beach seine attempted, but the pool was too wide and deep; Observed several Brook Stickleback and Fathead Minnows. Low dissolved oxygen.
B-04-264	Released 30 Fathead Minnow and eight Brook Stickleback.
B-04-265	Turbid water. Very little flow. Dense algae growth.
B-04-266	Lots of beaver dams in the area.
B-04-267	No flow over dam. Standing pools only. A boat launch is located on the upstream side of the dam. Lots of debris left by fishers.
B-04-268	Unnamed drain leading to Pasquia River (approximately 1/4 mile north of the river). Excellent riparian area. Cannot see the culverts due to dense cattail growth.
B-04-269	Marsh habitat with dense aquatic vegetation. Too deep to electrofish or seine.
B-04-270	No Catch. Most of channel too deep to fish. Dense submerged vegetation. No flow. Standing water present.
B-04-271	Standing water. No flow. Choked with vegetation.
B-04-272	Too deep to fish. Saw a Walleye and dip netted some Spottail Shiner at the outlet of the gated corrugated metal pipes of the control structure; gate closed so no fish passage is possible. Dense submerged vegetation.
B-04-274	Dry; mowed channel and roadside bank.
B-04-275	Deep pool at base of corrugated metal pipes. Channel choked with grasses and emergent vegetation; no water movement; tons of zooplankton.
B-04-276	No flow through pump station. Gated at both inlet and outlet. Very deep and 80% full of tall submerged vegetation. Released four Spottail Shiner.
B-04-277	Lots of submerged vegetation on both drains; deep (over 1.3 m).
B-04-278	Dense growth of cattails and sedges in the channel.
B-04-279	Dry. No flow.
B-04-280	Upstream backed up and very deep, downstream most of channel filled with submerged vegetation.
B-04-281	Gated control structures/ pump station. No fish passage. Lots of submerged vegetation and too deep to fish.
B-04-282	Dry, ditches to south mowed.
B-04-283	Two corrugated metal pipes hidden in grass so no photos of them.
B-04-284	Standing water only. Drain is choked with vegetation.
B-04-285	Deep water - staff gauge reads 1.5 m, lots of submerged vegetation some emergent vegetation.
B-04-286	Water being pumped from station into Pasquia River. Local knowledge: local water stewardship employee says they see Northern Pike in drain, surveying and cleanout scheduled for next two days on drain.
B-04-287	Two small Northern Pike could be seen under bridge. Too deep to fish. Lots of emergent vegetation and submerged vegetation present.
B-04-288	Lots of emergent vegetation and submerged vegetation. Too deep to fish.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-04-001	Spring flows over Walleye spawning riffle. No fish observed.
D-04-002	Spring flows through raised crossing. No fish observed.
D-04-003	Dry. No flow.
D-04-005	Low flow conditions.
D-04-006	1.5 m deep plunge pool below PTH #5 crossing.
D-04-007	1.1 m deep pool below riffle.
D-04-008	0.6 m deep pool 50 m downstream from bridge.
D-04-009	Old WSC hydrometric station. Sheet pile weir still in place blocking fish passage at this flow.
D-04-010	Headwater storage project.
D-04-011	Future headwater storage planned at this site.
D-04-012	Site visit by Manitou Grade 8 Class.
D-04-013	Very high flows in North Snake Creek. Increased flows out of pond. 100's of larval Northern Pike in 30 minute larval drift trap set.
D-04-014	High flows over raised crossing.
D-04-015	20-hour larval drift trap set -no catch.
D-04-016	Numerous larval Northern Pike and predacious diving beetles in sample.
D-04-017	Nil catch. Perched culvert 4 miles downstream. Site of future water withdrawal.
D-04-018	Breach through old PTH #16
D-04-019	Culvert outlet velocity 2 m/s
D-04-020	Nil catch in larval drift trap.
D-04-021	Nil catch in larval drift trap.
D-04-022	Cultivated to water's edge.
D-04-023	Minor cattle impacts downstream from bridge crossing.
D-04-024	No flow. Pooled water from recent heavy rains.
D-04-025	Cattle access to stream. Water storage structure (upright corrugated metal pipe) on upstream side of road.
D-04-026	Headwater storage project.
D-04-028	New condominium development on stream bank. Recent works have not re-vegetated.
D-04-029	Good flows after recent rains. Crappie washed out of reservoir upstream.
D-04-030	Slightly perched corrugated metal pipe culvert. Beaver dam in upstream end of culvert.
D-04-031	Old railway trestle bridge piles in stream. Deck of trestle has been removed.
D-04-032	Culvert plugged with woody debris and creek is flowing across gravel road.
D-04-033	Culvert perched above bed level. Good riffle/run/pool sequences. .
D-04-034	Good riffle pool sequences. Good mix of habitat. No fish? Blockages downstream ?
D-04-035	Old railway trestle piles in place, old bridge decking removed, Old, large remnant beaver dams throughout reach. Debris jam on upstream side of bridge piles.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-04-036	Natural section stocked with Brown Trout. Released 20 Western Blacknose Dace, 11 Creek Chub, 10 Longnose Dace, 13 Johnny Darter. Perched culvert at low flows.
W-04-001	Unnamed 2nd order runs into drain, and is dry. Quad tracks upstream and downstream of bridge and throughout stream. Suckers spawning upstream and downstream side of bridge crossing. Barbwire fence across drain. Diked both sides.
W-04-002	Stream has slight trickle of flow. Diked right bank.
W-04-003	Grasses throughout drain upstream and downstream of crossing. Downstream side has standing pools. No flow. Not diked.
W-04-004	Garrioch Creek: upstream is 4th order; downstream is 3rd order, Rockland Drain is 3rd order. Suckers spawning. Local knowledge: Pike used this creek earlier this year, usually creek is dry in summer except after heavy rains. On downstream right bank sign indicating "Riparian Stewardship Program, Dan and Jen Sherman and Family, Land Water Partnerships" Diked both banks.
W-04-005	Stranded White Sucker (n = 4) found upstream of bridge crossing, two alive, two dead. Upstream side has a shallow pool (0. 2 m). Very little flow. One small riffle upstream side of bridge. Rock barrier likely limits fish passage at upstream side of box culvert. Diked both banks.
W-04-006	No fish caught. Consistent depth 0.3-0.6 m. Dominated by slow/ deep flow regime. Upstream diked both banks, downstream diked left bank only.
W-04-007	White Sucker spawning on site. Cattle Impacts - cows have free access to drain. Submerged and emergent vegetation throughout reach. Crossing has culvert armoured with cement filled bags on geotextile. Good flow. Diked both banks.
W-04-008	Inflow with gated culvert (open) on upstream side right bank. Dry. Dense growth of vegetation in channel. Diked right bank.
W-04-009	No fish caught. Water depth 0.3 m, some submerged vegetation on bottom of stream, emergent vegetation along water's edge, predominantly long grasses. Flow regime slow/ shallow. Channelized, no riffles, no bends. Riparian vegetative protection mainly grasses. Diked both banks.
W-04-010	Trickle of flow. Submerged and emergent vegetation throughout channel Lots of litter in drain. Diked both banks.
W-04-011	Diked roadside.
W-04-012	No flow. Diked south bank.
W-04-013	No fish caught. Channelized, a few deep pools, no riffle habitat. Infrequent bends upstream of crossing. Diked south side.
W-04-014	Diked on one side (road). Pool downstream~0.2 m deep. Dry upstream. Dense mat of dead vegetation clogging culverts. Grassed banks. Diked south bank.
W-04-015	Diked both banks.
W-04-016	Diked roadside.
W-04-017	Grassed channel. Downstream side of crossing is dry below standing pool extending 10 m downstream. Diked south bank.
W-04-018	Diked on one side (road). Simple habitat upstream and downstream.
W-04-019	Not diked. Complex habitat upstream and downstream.
W-04-020	Not diked. Complex habitat upstream and downstream? No flow, very shallow. No fish caught.
W-04-021	Lots of dry cattails throughout channel. Predominantly marshland with unconnected standing pools. Not diked.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-022	Major crossing road work, recently completed, road improvements, new culverts, geotextile fabric with straw and grass fibers protecting exposed banks and extending into the wetted channel. Diked road side
W-04-023	Marsh habitat upstream and downstream of crossing. Not diked.
W-04-024	Not diked.
W-04-025	Gated culvert closed on downstream side. Not diked.
W-04-026	Culverts gated on downstream side, all three culverts closed. Not diked.
W-04-027	No fish caught. Many patches of exposed soil on banks. Road improvements underway. Substrate mainly cobble and silt. 1 large (10 m x 20 m) deep pool on downstream side of crossing.
W-04-028	Cattle impacts - cows have access to channel upstream and downstream. Not diked.
W-04-029	Did not fish due to strong sewage smell and low dissolved oxygen. Riprap bottom prevalent, Geotextile upstream and downstream. Road resurfacing along PR #227. Dominated by one velocity regime- slow/deep. Diked both banks.
W-04-030	Not diked.
W-04-031	Diked south bank.
W-04-032	No fish caught, but three Northern Pike observed on downstream side of bridge crossing. Slow/ shallow and slow/ deep velocity regimes present. Cement box culvert. Numerous bends present, Upstream right bank riparian zone closely mowed to water's edge from bridge to 200 upstream. Marshy habitat with mostly shallow pools. One deep pool in reach. Not diked.
W-04-033	Dry. Cultivated field to edge of drain and mud road. Channel has been cultivated upstream and downstream of crossing. Not diked.
W-04-034	Not diked.
W-04-035	No flow. Dry upstream. One small shallow pool (depth = 0.15 m) downstream of crossing. Not diked.
W-04-036	No fish caught. Slow/ shallow flow regime. No flow. One culvert, no riffles, no real bends. Not diked.
W-04-037	Slight trickle of flow. Not diked.
W-04-038	Not diked.
W-04-039	Released two White Sucker (430 mm, 390 mm FL) and Northern Pike (400 mm). Dense aquatic vegetation. Standing water, little to no flow. Channelized with no riffles or bends. Cultivated field at edge of drain. Grassed banks. Slow/ shallow flow regime present. Lots of submerged vegetation covering bottom of channel except in deeper pools. Two culverts at access road, three at PTH #6. Not diked.
W-04-040	Seven White Sucker released (286 mm - 407 mm FL). Very slow flow velocities and very shallow although water fills >75% of available channel. Two culverts in crossing. Not diked. Very slight bends throughout (meandering). Grasses and a few shrubs line the banks. Pasture at edge of bank. Channel fenced off on both upstream and downstream sides.
W-04-041	No fish caught. Submerged and emergent vegetation throughout. Maximum pool depth 0.6 m. Not diked.
W-04-042	Diked both sides.
W-04-043	Seven White Sucker released (355 mm – 395 mm FL). Slow/ shallow flow regime present. One culvert, channelized. Field cultivated to edge of channel. Uniform water depth ~0.6m max. Diked roadside (north).

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-044	Three suckers observed but unable to collect. Local knowledge: suckers use this drain. Lots of emergent and submerged vegetation along banks. Not diked. Slow/ shallow flow regime present. Bridge crossing, channelized. Three bends in reach.
W-04-045	Diked north bank, roadside. One culvert at PR #513. Small pool upstream, marshy downstream.
W-04-046	Diked roadside, east.
W-04-047	Small standing pools on either side of culvert. Dry upstream and downstream of crossing. Diked both sides.
W-04-048	Diked both sides downstream, roadside upstream. Submerged and emergent vegetation throughout channel.
W-04-049	Diked both sides. >25% of channel substrate is exposed. Four culverts under PR #328. Riffle-run-pool sequence present in reach.
W-04-050	Diked roadside, east. Culverts downstream side are perched 0.2 m. Three culverts in crossing.
W-04-051	One White Sucker released, others observed. Bridge crossing with good flow. Not diked.
W-04-052	Local knowledge: many beaver dams, thought we wouldn't catch anything because fish couldn't get past beaver dam. In past, when water is high fish passed but got stuck behind dam in fall- "thousands of fish" couldn't get back to lake. Not diked. Five bends in sight. Pockets of submerged vegetation throughout reach. Substrate dominated by sand/gravel/cobble.
W-04-053	Flooded - due to recent snow (May 11) and rain (May 15). Not diked. No fish caught. Bridge with box culvert. Channelized. One bend upstream of crossing and 2 riffles downstream of crossing. Right bank: upstream side mud banks, downstream, some exposed mud. Vegetative bank protection consists of grasses.
W-04-054	Flooded. Three suckers caught (190 – 400 mm, Fork length). Not diked.1 bridge, channelized in the past. Four bends in sight. Horse pasture upstream left bank (East). Gravel deposit downstream of bridge. Patchy vegetation on banks. Trickle of inflow from east and west tributaries downstream of bridge crossing.
W-04-055	Not diked. Trickle of flow. Vegetation throughout reach. Channelized. 3 culverts. Grass banks
W-04-056	No fish caught. Channelized, two culverts. Roadside cultivated field to edge of water. Diked on roadside.
W-04-057	Dense vegetation throughout channel (long grasses). Flooded because of recent snows and rains (30 mm of rain). Flow regime- no fast/ deep. Channelized, two culverts. Not diked. No riparian vegetation on upstream side, cultivated field to edge.
W-04-058	No fish caught. Substrate - immediately downstream and upstream of crossing is cobble with submerged and emergent vegetation. The rest of the channel has a heavy deposit of sediment. Flow regime - slow/ shallow and fast/shallow. Water fills 25% of available channel. Not diked. Upstream - channelized, downstream - many bends. Two culvert crossings in sight. No real riffles. Yard and fields to water's edge.
W-04-059	No fish caught. Recent rains May 19/04, ~30 mm. Channelized, one culvert. Diked both sides. Riffles upstream and downstream of culvert for 10 m each side. Grassed banks. Little aquatic vegetation.
W-04-060	Suckers caught. Flooded due to recent rains ~ 30 mm. Local knowledge: two years ago flooded like present, foot long Northern Pike were using drain on upstream side; drain dries in summer. Emergent and submerged vegetation throughout, good flow. No fast/ deep flow regime. Banks flooded. Channelized in past, one bridge, not diked. Six bends in view, riffles at channel constrictions. Some riprap used to stabilize left bank on downstream side, 15 m downstream of bridge.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-061	Very flooded. Local knowledge: RCMP Doug (dive team with Experimental Lakes Area) - says stream never dries up; upstream 1.6 km is a large marsh area, lots of water, beaver dams; water levels always high and flooded at this time of year; 7 years ago drain was dredged. Diked one side right bank (north).
W-04-062	Very flooded, deep and fast water. Water levels at top of culverts ~ 2 m deep. Recent rains May 19, ~30 mm. Upstream-diked both sides. Downstream-diked roadside (north).
W-04-063	No fish caught. Channelized, two culverts, diked both sides. One riffle, no bends. Vegetative bank protection - grasses. Riparian - road on North side, fields on South sides. Gated culverts on inflows are closed.
W-04-064	Upstream - not diked. Downstream - diked both banks.
W-04-065	Diked both sides.
W-04-066	Diked road (west) side.
W-04-067	Diked both sides.
W-04-068	Diked both sides. Cattle access to drain.
W-04-069	No fish caught. Very little water in channel. Channelized, one culvert, diked both sides. One riffle in corrugated metal culvert. Stream substrate - mud and firm clay. No pools. Mud banks exposed, recently dredged? Probably dry before recent rains.
W-04-070	No fish caught. Submerged vegetation throughout drain. Channel diked both sides. Three culverts. Upstream and downstream of culverts are shallow pools.
W-04-071	No fish caught. Electrofisher not working properly-kept cutting out and could not fish deep pool downstream of culverts. Channelized, two culverts. Diked both sides. No riffles, three bends in reach. Very steep banks on roadside (right bank) have areas of bare sand exposed, with potential for erosion. Left bank vegetation protection consists of grasses. Upstream side of culverts banks are covered with straw.
W-04-072	Diked both banks and channelized, one bridge. Right bank slump 50 m downstream from bridge. Vegetative bank protection - short grasses. Rock dam at edge of Seine River in mouth of unnamed 2nd order - appears to block fish passage. Flow trickling through rocks.
W-04-073	Diked road (west) side. Water depth 0.2 m, little to no flow. Water level appears to have receded recently.
W-04-074	Channelized, diked both sides, one bridge. Submerged vegetation mid channel and edges lined with emergent vegetation. Gravel/ cobble substrate predominate. Perched, closed gated culverts - still draining water from adjacent area.
W-04-075	Diked both sides.
W-04-076	Channelized, box culvert (cement), diked both banks. Vegetative bank protection - grasses.
W-04-077	No fish caught electrofishing. Larval drift trap set for 30 minutes- caught one central Mudminnow. Only one riffle downstream of culverts. Three culverts, Channelized and diked both banks. Vegetative bank protection - short grasses prevalent.
W-04-078	One riffle downstream of culverts. Three culverts. Channelized - extensive on upstream side, less on downstream side of crossing. Diked both banks upstream side and diked south bank only on downstream side. Bank stability poor on downstream side. Vegetative bank protection - grasses. Horses have free access to drain upstream side of crossing.
W-04-079	Dense instream vegetation throughout reach. Diked both sides.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-080	3rd order tributary runs north into Ross Creek and 2nd order tributary runs south into Ross Creek. Diked both sides.
W-04-081	Beaver dam (height 1 m). Diked both sides.
W-04-082	No fish caught. Larval drift trap set for 30 min. Channelized and diked both banks. Four culverts. Vegetative bank protection - grasses. No pools present in reach.
W-04-083	Local knowledge - some Northern Pike used drain in past. Suckers also use drain, but due to beaver dams upstream fish passage is blocked. Banks flooded. One culvert, Not diked. Riffles all backwatered by flooding. Vegetative bank protection - grasses prevalent. Deep pools common.
W-04-084	Lots of submerged vegetation throughout channel. Eight inflows with gated culverts. Bridge crossing. Diked both banks and lots of riprap used to stabilize banks. Water levels down 0.3 m. Uniform depth 0.3 m maximum in thalweg. Vegetative bank protection - grasses prevalent.
W-04-085	Larval Northern Pike caught. No apparent flow. Flooded above banks ~ 0.6 m upstream side is channelized and diked both banks. Flat water, two bends in reach. Grassed banks. Uniform water depth ~ 1 m.
W-04-086	Not diked.
W-04-087	Larval drift trap effort = 15 min. Larval Northern Pike caught. Didn't need to set larval drift trap for longer than 15 minutes because lots of larval Northern Pike seen in pool downstream of culvert. 1 culvert. Channelized and diked both sides. No riffles, no bends. Vegetative bank protection - grasses. Banks 5 m high. Larval Northern Pike caught in pool - depth 0.45 m upstream side very little water except for shallow pools.
W-04-088	Larval drift trap effort = 30min. Larval Northern Pike caught. Water depth down 0.3 m. Channelized, two culverts, diked both sides. Maximum water depth 0.2 m.
W-04-089	Fish passage blocked by flattened culvert and sand deposition. Submerged vegetation throughout; grasses. Recent rains May 29-31 (~50 mm). Not diked.
W-04-090	Larval drift trap effort = 30 min. Fast flow, riffle at downstream end of culvert. Recent rains May 29-31. 50 mm. Local knowledge: drain dredged 2 years ago and flow is usually higher. Overhanging vegetation, woody debris and some submerged vegetation for available cover. Flow regime: little slow/shallow at edge of drain, flooded surrounding areas. Channelized, diked west bank, one culvert. Eroded downstream side of culvert on right bank for 5 m. Flow velocity: culvert inlet: 1.59 m/s; culvert outlet 2.25 m/s
W-04-091	Local knowledge: Drain flooded three times this year to extent of flowing over road. Severely flooded. 30 m of Balcaen Road is under water. Could not take inlet or outlet pictures submerged culverts. Too deep to electrofish. Diked both banks.
W-04-092	Flooded banks more than 0.6 m. Channelized. Diked left bank (north). No riffles, one bend in reach.
W-04-093	Submerged vegetation throughout drain. Banks flooded. Channelized, two culverts, diked road (north) side. Vegetative bank protection mainly grasses.
W-04-094	Submerged vegetation and overhanging vegetation through drain on upstream side of culvert starting 10 m upstream of culvert. downstream deep and un-wadeable. Drain is flooded 1 m above banks, banks soft. Bottom has very little sediment deposition. One large culvert. Diked downstream left bank (north), and upstream right bank (south). two riffles and two bends in reach. Deep centre channel 1.5 m.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-095	Lots of woody debris, little submerged vegetation and emergent vegetation. Two culverts, riprap for stability. Not diked, many bends. Water depth shallow ~ 0.3 m.
W-04-096	Pool downstream side of culvert depth ~0.5 m. Area flooded because of recent rains, not diked.
W-04-097	Banks flooded. Two culverts, not diked. No riffles or bends in view. Centre channel ~1.5 m deep.
W-04-098	Submerged vegetation throughout. Very little water on upstream side and standing pool on downstream side. Poorly defined channel. Pool ~0.3 m deep.
W-04-099	Deep and very flooded. Surface of water 0.3 m below bridge. Trees in water, banks flooded.
W-04-100	Water level 1 m from bottom of bridge. Area severely flooded.
W-04-101	Slight trickle of flow. Not diked.
W-04-102	Drain bottom - gravel, sand and vegetation. Diked downstream side both banks. Many bends. No riffles. Vegetative bank protection - downstream grasses, upstream grasses and shrubs.
W-04-103	Not diked.
W-04-104	Diked left bank (north).
W-04-105	One culvert, channelized, diked roadside (west) bank. No riffles, no bends. Vegetative bank protection left bank - grasses, trees shrubs, right bank - grasses.
W-04-106	Channelized, diked west bank (road side). Two culverts. Vegetative bank protection - predominantly grasses.
W-04-107	Flooded. Cannot tell if diked on right bank on downstream side. Riffles caused by submerged trees and shrubs constricting channel.
W-04-108	Not diked.
W-04-109	No undercut banks, snags or submerged logs. Primarily cobble and gravel on downstream side of culverts and heavy instream vegetation upstream side of culverts. Water level has dropped a few inches. Three culverts, diked roadside. 50 m of riffles downstream of culverts, five bends in sight. Vegetative bank protection - primarily grasses.
W-04-110	Rocks present 5 m upstream and downstream of bridge. Cover provided by a few places where banks are undercut. Some submerged vegetation and instream vegetation. Water depth in center channel is 1.5 m deep, with gravel bottom downstream of bridge. Turbulent flow at channel constrictions. No snags, no submerged logs. Flooded. Channelized, diked left bank (north). Bridge. Grasses prevalent.
W-04-111	One culvert, diked right bank (south) on upstream side and both banks downstream of crossing. Two bends, two riffles in reach. Grassed banks. Field cultivated to edge of drain on upstream side. Clay bottom dominant.
W-04-112	Flooded. Unable to locate flooded culverts.
W-04-113	White Sucker caught. Heavily silted reach. Diked both banks.
W-04-114	Saw two very large fish - probably Common Carp. Channelized, one culvert. Diked both banks, no riffles, no bends.
W-04-115	No fish caught. Flow regime - slow/ shallow and slow/ deep. Water levels have dropped 0.3m. Channelized, diked both banks. Two large culverts, two small culverts. Vegetative bank protection - grasses prevalent.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-116	Two juvenile White Sucker released (~60 mm long). Channelized, diked left bank (east) one culvert, one bridge. Little submerged vegetation.
W-04-117	Not diked. Instream vegetation throughout.
W-04-118	Not diked.
W-04-119	No fish caught. Recent rains June 5-6/04. Lots of emergent and submerged vegetation. Grasses prevalent. Area flooded. Channelized, one culvert. Diked north bank (roadside)
W-04-120	Undercut banks, cobble bottom, instream vegetation. Cobbles 50-75% embedded at bank edges. Channelized, two culverts. Diked right bank (east, road). Grasses prevalent.
W-04-121	No fish caught. Emergent vegetation and submerged vegetation only, no logs, no snags. Channelized, two culverts, diked right bank (west, road). No riffles, no bends. Grassed banks.
W-04-122	Diked both banks.
W-04-123	Diked rail side (west). Mainly standing water.
W-04-124	No fish caught. Little flow. No pools, no bends, no riffles. Channelized, diked right bank (west, road). Water depth 0.5 m deep. Grasses prevalent.
W-04-125	Not diked.
W-04-126	One culvert. Not diked. Some bends, no riffles, long grasses prevalent. Vegetation natural with gravel bottom throughout reach.
W-04-127	Not diked.
W-04-128	Diked left bank (north, road).
W-04-129	No fish caught. Surrounding fields flooded. Channelized in parts, one culvert. Diked right bank (west) upstream, downstream not diked. No riffles. Cannot tell where banks are with flooding, grasses prevalent.
W-04-130	Diked road (North) side. Flooded, 0.5 m deep at downstream side of culvert.
W-04-131	Not diked. Cows have access to drain.
W-04-132	Flooded adjacent fields. Channelized, two culverts, diked both banks downstream side, not diked upstream side. Grasses prevalent
W-04-133	Diked both sides downstream, diked left bank (north, road) upstream side.
W-04-134	Diked right bank (road, West), water level down 0.5 m.
W-04-135	Algae (filamentous) provides a lot of cover. Water level down 1 m, channelized, diked right bank (road, west). Two culverts, grasses prevalent.
W-04-136	Not diked. Cultivated field to edge of drain on downstream side. No flow upstream side. Not sure where drain comes from on upstream side - no defined drain channel.
W-04-137	No fish caught, could only fish 50 m because dense vegetation 25 m upstream and downstream of culverts. 2 culverts, not diked. Few riffles at channel constrictions.
W-04-138	Diked right bank (west, road).
W-04-139	Diked both banks

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Site Number	Field Notes
W-04-140	Diked right bank (north, road). Vegetation throughout channel. No flow, dry upstream and downstream, with some marshy areas. Cultivated field to edge of drain. Diked north bank and cultivated field left bank (south).
W-04-141	Diked both banks, mud road submerged in water. Drain is flooded.
W-04-142	Field cultivated to edge of drain downstream right bank. Marshy except for standing pool downstream culvert.
W-04-143	Water depth 0.2 m, Little flow. Diked both banks.
W-04-144	Pool downstream side of culvert ~0.2 m deep, 1 m wide, and 3 m long. Diked both banks on downstream side and diked left bank (PR # 201) upstream side.
W-04-145	Not diked.
W-04-146	Diked both banks downstream side. Reach at junction of unnamed tributary and Kyle Drain. Diked right bank (south) upstream side.
W-04-147	Small pool upstream side of culvert is shallow ~0.2 m deep. Diked both sides. Downstream side gravel bottom from culvert extending 5 m south (downstream). Pool downstream 0.4 m deep and is 8 m x 1 m.
W-04-148	Drain is not flowing, standing pool on upstream side of culvert. On downstream side dry beyond standing pools. Diked roadside (west) left bank.
W-04-149	Northern Pike (305 mm fork length) released. Flow regime - slow/shallow and slow/deep. Water has dropped 2 m. Channelized, one culvert, diked both banks. Pool substrate mainly clay and mud, 0.5 m deep silt downstream of culvert.
W-04-150	Slight trickle of flow with standing pools. Diked left bank (north, road).
W-04-151	Trickle of flow. Channelized, diked right bank (west), one bridge. Vegetative bank protection - grasses.
W-04-152	Water very turbid, all mud channel. Not diked.
W-04-153	Water depth down 1 m. Channelized, diked both banks, five culverts one cement box culvert, five gated culverts. Vegetative bank protection - grasses. Pool substrate mud with little submerged vegetation.
W-04-154	Not diked.
W-04-155	Not diked.
W-04-156	Perched culvert on field access road, steep drop to downstream side of culvert. Diked left bank (road, north)
W-04-157	No fish caught. Substrate Embedded: >75% surrounded by fine sediment on upstream side of culverts. Water level down 1 m. Channelized, diked both banks on upstream side, not diked on downstream side. Cement box culvert downstream side and four large culverts. Banks unstable, exposed mud shoreline on both banks upstream of crossing. Vegetative bank protection - grasses 0.5 m above mud shoreline, water level down 1 m.
W-04-158	Upstream side of culverts looks like a tractor drove in the drain for entire length of drain (grass in drain cut short). Standing pools on downstream side. Upstream side grasses except for scour pool by culvert.
W-04-159	Primarily clay bottom. No flow. Channelized, diked both banks downstream side, not diked upstream side. Three culverts and riprap. No riffles, four bends in view. Vegetative bank protection- grasses.
W-04-160	Standing pools ~ 0.2 m deep throughout downstream side of crossing. Diked right bank (west).
W-04-161	Downstream side of culverts is mainly marshy. No flow. Upstream side has standing pools. Diked left bank (west).

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-162	Very shallow, Heavy instream vegetation. Not diked.
W-04-163	Mud shoreline right bank and left bank because water level has dropped 1m. Water is very turbid.
W-04-164	Diked both banks
W-04-165	Diked left bank (north, road).
W-04-166	One Northern Pike caught. Dredged material from upstream side on right bank. Exposed soil right bank. Channelized, diked both banks, four culverts, one gated culvert. Vegetative bank protection - grasses left bank, eroded bare soil patch on upstream side of right bank for 3 m. Pool substrate, few boulders. Maximum water depth 0.3 m.
W-04-167	Channelized, two culverts. Four gated culverts. Diked both banks. No riffles, no bends. Vegetative bank protection - grasses.
W-04-168	Diked left bank (north, road).
W-04-169	Not diked.
W-04-170	Not diked.
W-04-171	Channelized, upstream side not diked, two culverts. Vegetative bank protection - grasses. Pool substrate is clay. Pools upstream and downstream of culverts.
W-04-172	Channelized, diked both banks, three culverts. Vegetative bank protection - grasses.
W-04-173	Channelized, diked both banks on downstream side. Upstream side diked left bank (west, road). One bend in reach. Vegetative bank protection - grasses.
W-04-174	Channelized, diked both banks. Vegetative bank protection- grasses.
W-04-175	Four Northern Pike caught, one juvenile released. Substrate - gravel bed downstream side of culvert. Submerged vegetation, undercut banks, no snags, logs or cobble. Flow regime - slow/deep, water depth dropped 1 m. Channelized, diked both banks upstream, and diked right bank downstream. Two culverts. Vegetative bank protection - grasses.
W-04-176	Sediment deposition at edges. Channelized, diked both banks. Bridges upstream and downstream and dam structure downstream. No riffles, no bends. Vegetative bank protection - grasses.
W-04-177	Channelized, diked both banks. Dam structure is barrier to fish passage. Vegetative bank protection - grasses.
W-04-178	Had to quit electrofishing due to downpour. Flow regime - slow/ shallow and slow/ deep. Channelized, diked both banks, two gated culverts. No riffles, no bends. Vegetative bank protection - grasses. Deep pool under bridge from centre of channel to right bank
W-04-179	Channelized, two culverts, diked both sides downstream and diked left bank (north, road) upstream. No riffles, no bends. Bank stability is poor due to very steep slopes on both banks. Vegetative bank protection - grasses. Riparian vegetation zone: upstream - field and road to edge of bank.
W-04-180	No fish caught. Channelized, diked both banks, one culvert. Steep right bank is unstable. Vegetative bank protection - grasses. Riparian vegetation zone - minimal on roadside. One deep pool on downstream side of culvert.
W-04-181	Four Northern Pike caught. Marshy. Water level down 0.3 m. Two culverts. No riffles, three bends in sight. Vegetative bank protection - grasses.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-182	Five young of the year Northern Pike caught. Channel alteration - two culverts and riprap. Many bends, riffle on upstream side of culvert. Vegetative bank protection - forest and grasses. Pool variability - deep pools on downstream side of culverts.
W-04-183	Not diked, complex habitat. Appears that water has dropped at least a few meters.
W-04-184	No fish caught. Flow regime - slow/ shallow and slow/deep. Channel flow status - water levels have dropped 0.3 m. Channelized on downstream side. One culvert. Vegetative bank protection - left bank forest and right bank grasses.
W-04-185	Dry upstream and downstream from bridge crossing. Vegetation throughout active channel. Small shallow pool at bridge crossing, diked both sides.
W-04-186	Channelized, diked both banks, three culverts. Pool variability - pools only immediately upstream and downstream of culverts - upstream pool is shallow, downstream deep.
W-04-187	Channelized, two culverts, diked both banks upstream and downstream. No riffles, no bends. Vegetative bank protection - grasses.
W-04-188	Diked both banks.
W-04-189	Not diked.
W-04-190	Not diked
W-04-191	Not diked.
W-04-192	Flow regime - slow/deep, slow/shallow. Channel flow status - flooded 2 m outside of banks. Two culverts. No riffles, many bends. Eroded bank on downstream side. Vegetative bank protection - trees and grasses. Not diked.
W-04-193	No fish caught. Epifaunal substrate - undercut banks, woody debris, snags and cobble at culverts. Flow regime - fast/ shallow, fast/deep. Channel flow status - water level has dropped 1 m (previously flooded). Not channelized. Not diked, two culverts. Riparian vegetation zone - downstream side left bank 12 m to mowed yard.
W-04-194	Dry with some marshy areas. Instream vegetation and shrubs throughout - drain completely overgrown. Not diked.
W-04-195	Water level down 2 m. Lots of woody debris, overhanging vegetation and undercut banks. One culvert. Not diked.
W-04-196	Not diked, complex habitat.
W-04-197	One White Sucker (252 mm) released. Flow regime - no slow deep. One culvert, not diked. Vegetative bank protection - grasses. Water level down 1 m.
W-04-198	Not diked. Dry.
W-04-199	No flow. Not diked.
W-04-200	Vegetative bank protection - shrubs, grasses and trees. Not diked.
W-04-201	Diked both banks.
W-04-202	Flow regime - slow/deep and slow/shallow. Channelized, diked both banks. Five large culverts and two other small culverts on upstream side. Vegetative bank protection - grasses. One pool on downstream side - large, deep 30 m x 20 m x 1.5 m.
W-04-203	Epifaunal substrate - gravel/cobble bottom and instream vegetation. Embeddedness - very embedded at edges but not in center channel. Channel flow status - very little water except for pool on downstream side of culverts. Channelized, two culverts, diked both banks. Vegetative bank protection - grasses. Trickle of flow only.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-204	Diked both banks.
W-04-205	On upstream side of drain grass is mowed close to edge of drain - 1 m to edge on right bank. Diked both banks.
W-04-206	Small standing pools upstream and downstream of culverts - otherwise drain is dry. Not diked.
W-04-207	Water level has dropped 1 m. Nice habitat. Undercut banks. Sediment deposition at banks and in pools. Flow regime - no fast/deep. One bridge, no riffles, many bends. Vegetative bank protection - grasses, shrubs and natural forest (all age classes). Pool substrate - sand dominant, some cobble and boulders, little submerged vegetation. Not diked.
W-04-208	Water levels have dropped 0.5 m. Three culverts. Not diked. Many bends. Pool on downstream side of crossing is very deep >1.5 m.
W-04-209	Not diked. Complex habitat.
W-04-210	Not diked. Water levels appear to have dropped ~1 m. Local knowledge: approximately one week ago aerial spraying was conducted on a windy day, chemicals are responsible for killing riparian vegetation along Hazel Creek. Dying trees visible along stream edge.
W-04-211	One Stonecat and one sucker caught. Sand, cobble and gravel bottom. Some instream vegetation. Sediment deposition at edges. Water down 0.6 m. Channelized, diked both banks, one culvert. Vegetative bank protection - upstream: grasses, downstream: grasses and shrubs. Pool substrate - mainly soft sand.
W-04-212	One Northern Pike released (80 mm). Channelized, two gated culverts, diked both banks. (two level dike) No riffles, no bends. Vegetative bank protection- grasses. Possible depth of 2 m in spring, based on high water marks.
W-04-213	One Northern Pike caught. Note: electrofishing discontinued because water was too deep and fast. One bridge, not diked. Vegetative bank protection - mature forest and grasses.
W-04-214	Diked roadside.
W-04-215	Drain is dry. Lots of cattails on upstream side, long grasses on downstream side. Diked right bank (west, road).
W-04-216	Flow regime - slow/ shallow and slow/ deep. Channelized, diked both banks, one culvert. No riffles, no bends. Very steep banks around culverts. Vegetative bank protection - grasses. Local knowledge: both upstream and downstream of culverts was dredged last summer (2003)
W-04-217	Vegetative bank protection - long grasses. Drain is beginning to meander within its channel. Water level down 0.5 m.
W-04-218	Flow regime - slow/shallow and slow/deep. Riprap, bridge, and gated culverts. Channelized, diked both banks. Drain in beginning to meander within its channel on downstream side. Vegetative bank protection - grasses. Deep pool on upstream side of crossing.
W-04-219	Drain is dry. Aquatic vegetation throughout. Diked right bank (east, road side)
W-04-220	Culvert #2 (East) is flattened. Pool upstream side is 4 m wide and 2 m long. Pool downstream side is 7 m wide and 5 m long. Drain is dry upstream and downstream of crossing beyond pools. Diked both banks upstream side, diked right bank (east, road) on downstream side.
W-04-221	Drain is dry except for one pool (1 m x 4 m) on downstream side of culvert. Diked both banks downstream side, diked left bank (north, road) upstream side of crossing.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-222	Diked both banks.
W-04-223	Dry upstream and downstream. Little standing water with in channel. Drain completely overgrown. Diked both banks.
W-04-224	Drain is dry. Diked left bank (north, road.)
W-04-225	Three suckers caught and released (150- 255 mm). Few undercut clay banks. Sedges and cattails (instream vegetation). Flow regime - slow/deep and slow/shallow. Water level down 0.5 m. Channelized, diked both banks, bridge crossing. No riffles. Drain starting to meander on downstream side of crossing. Vegetative bank protection - grasses. Riparian - mowed on downstream side (left bank) for 200 m. Pool substrate - mainly clay bottom.
W-04-226	Drain overgrown on downstream side. Not diked downstream side,. Diked left bank (road) on upstream side.
W-04-227	Drain overgrown. Dry upstream and downstream. Lots of instream vegetation throughout drain. Cattails at upstream side of culvert. Diked both banks.
W-04-228	Drain dry except for one pool on downstream side of culvert (pool size: 2 m x 4 m). Diked both banks.
W-04-229	Diked right bank (north, road.)
W-04-230	Diked both banks.
W-04-231	Three juvenile Northern Pike caught, one released (76 mm). Kick sampled 1 m^2. Flow regime - fast/deep and slow/deep. Channelized, diked both banks, three culverts, one gated culvert. Drain is starting to meander within its channel on downstream side of crossing. Vegetative bank protection - mainly grasses, a few shrubs. Riparian vegetation zone on upstream side left bank ~6m wide on diked roadside.
W-04-232	Four juvenile Northern Pike caught, two released (1 – 250 mm, 1 – 102 mm). Cobble bottom, lots of submerged and emergent vegetation. Water level has dropped 1 m. Sediment deposition mainly at bank edges. Channelized, three main culverts. One gated and one regular culvert running into drain from tributaries. Diked both banks upstream side, diked right bank downstream side. No riffles, two bends in sight.
W-04-233	Not diked. Water level down ~1 m. Local knowledge: suckers and Common Carp used this drain three weeks ago.
W-04-234	Pool substrate mainly cobble and gravel. Flow regime - fast/ deep and slow/ deep. Not diked. Cattle have access to drain on downstream side of bridge.
W-04-235	Not diked.
W-04-236	Not diked.
W-04-237	Electrofishing discontinued because water was too deep. Lots of submerged vegetation. Not diked. No riffles, few bends in view upstream and downstream. Vegetative bank protection - shrubs, grasses and trees. Pool substrate - gravel and silt with dense submerged vegetation.
W-04-238	Cover provided by submerged vegetation. Channel flow status - flooded adjacent grasses. Water level down ~1 m minimum and dropping quickly. Not diked, one culvert. Riffles caused by channel constrictions. Pool substrate - gravel, boulders and cobble.
W-04-239	One Northern Pike caught, 30 Brook Stickleback released. Fish passage blocked because upstream side of culvert is blocked with a metal grate. Flow regime - no fast/deep. Not channelized, not diked, two cement culverts.
W-04-240	Not diked. Large beaver dam (8 m wide).

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-241	Not diked. Two beaver dams upstream side of bridge. Trickle of flow, mainly deep standing pools. Oily sheen on water. Too deep to fish.
W-04-242	Not diked. Too deep to fish. Fenced off on upstream side of bridge crossing.
W-04-243	Not diked. Water level down 2 m. Dense submerged vegetation in pools.
W-04-244	Not diked. Many Common Carp seen in the pool (upstream of culvert). Too deep to take inlet and outlet photos (submerged).
W-04-245	Not diked. Many Common Carp seen. Water level down 1 m. Very deep drain. Water mainly standing, (slow movement)
W-04-246	Many Common Carp seen on upstream side of culvert. Not diked.
W-04-247	Not diked. Drain is dry upstream and downstream. Some marshy areas. Cement culverts. No outlet picture taken, drain completely overgrown.
W-04-248	Not diked. Unable to fish because water depth.
W-04-249	Local knowledge: usually trout are found in this creek. Flow regime - fast/shallow and slow/shallow. Low water level. Lots of woody debris, forming dam on upstream side. Both banks diked, not channelized. 3 culverts. No riffles, run and pools only. Pool substrate - cobble. No pools-uniform depth ~ 0.3 m
W-04-250	Two White Sucker caught. Flow regime - fast/shallow and slow/shallow. Water level down 1 m. Not diked, not channelized, one culvert. One riffle downstream side of culverts, many bends. Pool substrate - sandy bottom. One pool downstream side of culverts (shallow)
W-04-251	Not diked. Drain is flowing. Drain is completely overgrown on both sides and access is difficult on downstream side.
W-04-252	One sucker caught. Flow regime - no fast/deep. Not diked. One bridge. Riparian zone is less than 6 m on right bank downstream side for 30 m from bridge. Nice diverse habitat.
W-04-253	Culvert #1 on downstream side filled with woody debris - little water getting through. Drain has a foul odour. Tractor tracks around drain - exposed mud areas surrounding drain. Flow regime - slow/deep and slow/shallow. Two culverts, not diked. Pool substrate - no submerged vegetation.
W-04-254	No undercut banks. Flow regime - fast/shallow and slow/shallow. Water level has dropped ~ 1 m. Two large culverts, not diked. Many riffles and bends. Pool substrate - algae covered cobble.
W-04-255	Dense instream vegetation. Flow regime - fast/shallow and slow/shallow, water level down 1 m. Two large culverts, not diked. No riffles (except associated with culverts). Many bends.
W-04-256	One Northern Pike caught. Cover provided by submerged vegetation. Flow regime- slow/deep and slow/shallow. One bridge, not diked. No riffles, two bends in reach. Vegetative bank protection - long grasses and shrubs.
W-04-257	Diked left bank (north, road).
W-04-258	Diked right bank (north, road). Drain is dry upstream and downstream, except for one pool on downstream side of culverts. Lots of instream vegetation- dominated by cattails.
W-04-259	Diked right bank (east, road). Downstream side of culverts, road edge showing signs of erosion.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-260	Two Northern Pike caught, one Northern Pike (76 mm) released. Problem with pH meter. Cover provided by lots of instream vegetation. Flow regime - slow/shallow. Channelized, diked both banks, three culverts. No riffles, drain is starting to meander within its dikes. Vegetative bank protection -very long grasses and shrubs.
W-04-261	Diked both banks. Standing pools present, very overgrown with vegetation.
W-04-262	Two Northern Pike caught. Cover provided by lots of instream and overhanging vegetation, and undercut banks. Flow regime - slow/ shallow, some slow/ deep (max depth 0.75 m). Water level has dropped 1 m. Not diked, not channelized, two culverts. No riffles, stream is meandering. Vegetative bank protection - upstream and downstream grasses and shrubs, downstream - forest.
W-04-263	Diked right bank (south, along road).
W-04-264	Local knowledge: suckers used the drain this spring. Flow regime - slow/shallow. Channelized, diked both banks, two culverts, one gated culvert. No riffles, no bends. Steep dikes. Vegetative bank protection - grasses. Pool substrate - submerged vegetation.
W-04-265	One Northern Pike caught. Flow regime - slow/shallow. Water levels have dropped ~1 m. Not diked. Five culverts in drain crossing, one culvert on tributary crossing. No riffles, two bends in sight. Vegetative bank protection - grasses. Pool substrate - mainly mud.
W-04-266	One Northern Pike (203 mm) released. One Yellow Perch caught. Kick sampled 1 m^2. Flow regime - fast/deep and slow/deep. Not diked, not channelized, one bridge. Vegetative bank protection - grasses, shrubs, bulrushes. Undercut banks.
W-04-267	Not diked.
W-04-268	Diked right bank (east) by road) No flow. Standing pool upstream of crossing. Dense submerged vegetation throughout drain. No culvert outlet picture (inaccessible).
W-04-269	Couldn't fish more due to extremely dense submerged vegetation and sediment. Cover provided by submerged vegetation and a few undercut banks. Flow regime - slow/shallow. Water has dropped 0.5 m. Not diked. Three culverts. No riffles, one bend in reach.
W-04-270	Not diked upstream side. Diked right bank (North) downstream side. Drain is dry upstream and downstream beyond marshy area under and around bridge. Drain is heavily overgrown.
W-04-271	Three suckers caught. Flow regime - slow/deep and slow/shallow. Water level has dropped 2 m. Not diked, not channelized, one large diameter culvert. No riffles. Marshy area. One very deep pool on downstream side of crossing.
W-04-272	Not diked. No flow. Long grasses and sedges throughout drain upstream and downstream of standing pool. One standing pool on downstream side of culvert (3 m x 5 m).
W-04-273	Not diked. Upstream of the crossing the channel has been altered due to agricultural practices.
W-04-274	Released two Northern Pike, one White Sucker and one Rock Bass. Epifaunal substrate - lots of riprap, little instream vegetation or submerged vegetation. Flow regime - slow/deep and slow/shallow. Not diked. Not channelized. Bridge crossing. Lots of riprap around and under bridge. No riffles. Vegetative bank protection - mainly grasses with a few shrubs. Left bank - field cultivated field right to top of bank.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-275	Drain is dry. Lots of grasses and cattails throughout the channel. Standing pool under the bridge. Diked left bank (south, road) on upstream and right bank on downstream side.
W-04-276	Drain is dry. Dredged on upstream side. Diked on right bank (south, PR #205).
W-04-277	Five Northern Pike seen, one caught. Fished pool on downstream side of culverts. Clay and mud bottom. No water movement, just one shallow pool on downstream side of culverts. One small pool on upstream side. Diked both banks, channelized, three main culverts, four small culverts from tributaries. No riffles, no bends. Vegetative bank protection - grasses. No vegetation in pools. Riparian on upstream side of culverts is 12m wide.
W-04-278	Not diked. Dry. Channel filled with vegetation.
W-04-279	Diked both banks. Several standing pools, with a maximum depth 0.3 m.
W-04-280	Not diked. One standing pool on downstream side of crossing. Very turbid and dense instream vegetation. No flow.
W-04-281	Diked both banks. Small standing pool on downstream side of culverts. No flow.
W-04-282	Diked left bank (road). No flow, standing pool.
W-04-283	Diked left bank (south, road). Dry upstream and downstream from bridge crossing. Sediment deposit around and under bridge.
W-04-284	Not diked.
W-04-285	Diked both banks. Dry, except for standing pools upstream and downstream of culverts.
W-04-286	No fish caught, had to discontinue electrofishing because sediment was too deep. Water depth 0.25 m. Sediment depth at least 0.5 m in some areas. Flow regime - slow/shallow only. Water levels have dropped ~3 m. Diked both banks. Wooden bridge, old piles. No riffles, five bends in sight. Some bank slump. Vegetative bank protection - grasses. No pools. Very little submerged vegetation (embedded in silt).
W-04-287	Thirty bullheads (240 mm), three Yellow Perch (250 mm), two Sauger (280 mm, 300 mm) released. Substrate covered with submerged vegetation. Overhanging vegetation (grasses) along banks. Diked both banks. Channelized. Paved raised crossing with six culverts. No real bends, one riffle on downstream side of ford crossing. Vegetative bank protection - grasses.
W-04-288	Not diked.
W-04-289	Forty bullheads, one Northern Pike (90 mm), and two White Sucker (305, 457 mm) released. Troutperch - some samples kept and five released. Flow regime - no fast/deep. Channelized, diked both banks. Riprap dam. No real bends, one riffle through riprap dam. Eroded banks with slump and scours evident. Vegetative bank protection - grasses. Pool substrate - mainly cobble and clays, no submerged vegetation.
W-04-290	Not diked. Pool on downstream side of culvert is 3 m (wide) x 8 m (long). Grass throughout pool and appears very shallow.
W-04-291	Not diked. Cattails and tall grasses in dry channel. No flow.
W-04-292	Diked both banks. Cattle have direct access to drain on downstream side of culverts.
W-04-293	Not diked. Drain is completely overgrown with cattails and tall grasses. Dry.
W-04-294	Not diked. Couldn't fish because access blocked by fence. Cattle upstream 15 m from crossing have direct access to drain.
W-04-295	Not diked. Cattle have direct access to drain on upstream side of culverts. Slight trickle, heavy vegetation (instream vegetation - bulrushes), standing pool on downstream side of culverts.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-04-296	Not diked. Drain is dry.
W-04-297	Released one White Sucker and 20 shiners. Cattle have direct access to river on upstream side of culvert bridge structure. Cattle impacts on banks and streambed. Water level down 0.5 m. Not diked, not channelized, one culvert bridge structure with three very large culvert openings. Shale bars present. Vegetative bank protection - grasses, shrubs and forest back from shale shoreline. Pool substrate - shale bottom, no submerged vegetation, little emergent vegetation.
W-04-298	Suckers caught, 10 juvenile suckers released. Water has dropped 2 m. Epifaunal substrate - cobble and snags. Flow regime - no fast/deep. Not diked, not channelized. Weir and bridge. Many bends, no riffles. Vegetation protection - mostly grasses. Shallow pools or pools absent - except where we fished.
W-04-299	Suckers caught. Moderate cattle impacts - have direct access to creek. Flow regime - no fast/deep. Not diked, not channelized. Lots of riprap, one culvert structure with four large culvert openings. One riffle, bends in view. Banks protected with riprap. Vegetative bank protection -grasses and shrubs. Pool substrate - lots of boulders/cobble.
W-04-300	Not diked. Water level down ~ 3 m.
W-04-301	Not diked. Water level down ~ 3 m. Local knowledge: Northern Pike and Walleye use this river. Cattle have direct access to river.
X-04-001	Low level crossing, with four 1.25 m corrugated metal pipes, left bank mowed, riffle upstream. Released six bullheads (100-200 mm fork length).One bank diked.
X-04-002	Cultivated land on both sides. Large cement dam 6 m high, 8 m long, 3 tiers. Fast flowing water. Both banks diked. Complex habitat upstream and downstream..
X-04-003	Too deep to fish. Diked on 1 bank.
X-04-004	Both banks diked. Complex habitat upstream and downstream.
X-04-005	Drain is surrounded by cultivated fields. Both banks diked.
X-04-006	No dikes.
X-04-007	No flow. No dikes.
X-04-008	No flow. No dikes.
X-04-009	No flow. Perched corrugated metal pipe. No dikes.
X-04-010	A little flow from yesterday's rain, but was dry previously. No dikes downstream, one bank diked upstream.
X-04-011	No flow. Standing pools at crossings.
X-04-012	No flow, diked on one side.
X-04-013	Too deep to fish.
X-04-014	No catch. Crossing is at PTH #3. Pool depth under bridge >2 m.
X-04-015	Diked on both sides.
X-04-016	Too deep to fish. Diked on northwest side.
X-04-017	Local knowledge: local has seen fish here before.
X-04-018	Not diked. Too deep to fish. Livestock have access to creek.
X-04-019	Not fishable due to right bank wire fencing. Not diked.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-020	Too deep on downstream side to fish and barbed wire fence upstream. Not diked.
X-04-021	Dissolved oxygen meter not working. Too deep to fish. Not diked.
X-04-022	Diked on both sides.
X-04-023	Downstream right bank no agricultural land. Left bank cultivated land >20 m away, upstream left bank cultivated land <5 m away. Right bank mowed grass.
X-04-024	Cultivated land around. Very dry. No flow. Lots of vegetation in drain. Rip rap in front of two outer corrugated metal pipes.
X-04-025	Burned cuttings blocking drain. No flow. Lots of vegetation in drain. Cultivated land all around and close to drain.
X-04-026	Cultivated land all around. Mowed grass. Downstream lots of vegetation. Local knowledge: completely dry by July.
X-04-027	Land cultivated very close to drain. Banks mowed to water's edge.
X-04-028	Land cultivated very close to drain. Burned on right bank. Very low water. No flow.
X-04-029	No flow. Cultivated land all around, 25 m from drain. Mowed grass left bank.
X-04-030	Cultivated land around. No flow. Very shallow. Low cement crossing.
X-04-031	Burned grass along banks. Cultivated land all around. Local knowledge: Drain dries up in summer.
X-04-032	Low level crossing flooded.
X-04-033	No flow.
X-04-034	No flow. Perched corrugated metal pipes.
X-04-035	Corrugated metal pipes blocked heavily vegetation debris, some burnt debris. No flow.
X-04-036	One corrugated metal pipe overgrown. Low water level.
X-04-037	Lots of overhanging vegetation over cut banks. Metal debris in creek.
X-04-038	Very shallow. Probably dries up in summer. Mowed grass right to water edge. Lots of submerged vegetation. Submerged vegetation is lawn grass.
X-04-039	Perched corrugated metal pipe (0.7 m). Flow goes into small corrugated metal pipe only. Length of corrugated metal pipes ~30 m.
X-04-040	Culvert near highway is perched (0.3 m). If flow is less by 5 cm both corrugated metal pipes would be perched.
X-04-041	Cultivated land around. Lots of flow coming out of ditch culverts.
X-04-042	Cultivated land around. Lots of snow in drain. Small culvert on left bank on downstream side of crossing perched (0.1 m).
X-04-043	Long riffle with high flow velocity.
X-04-044	One crayfish observed.
X-04-045	Adjacent to cattle pasture.
X-04-046	Area where Kitner drain enters Alonsa drain. Melt water flow.
X-04-047	Upstream there is a dugout pool in drain. Light cattle impacts.
X-04-048	Cultivated land right to drain on right bank of downstream side.
X-04-049	Land around drain is flooded. Wagon wheels at culvert inlets hold plant debris.
X-04-050	Too deep to fish. Control structure upstream holding back water.
X-04-051	Bridge crossing is very low. Beaver dam holding back flow.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-052	Cultivated land around. High velocity flow.
X-04-053	Cultivated land around. High velocity long riffle. Corrugated metal pipes would be perched if water drops 0.20 m. Corrugated metal pipe inlet is at a 45 degree angle. 10-15 visible White Sucker at culvert outlet.
X-04-054	Spawning suckers observed. Cultivated land around. High velocity flow.
X-04-055	Observed spawning White Sucker.
X-04-056	Mowed grass right to creek. Observed spawning White Sucker. Gravel, sand and cobble substrate. No suckers up Binden Drain. Suckers here are showing more spawning colours than those downstream from this site.
X-04-057	Right bank turbid water from where 2nd order drain enters creek. Spawning White Sucker observed. Lots of overhanging vegetation.
X-04-058	Observed spawning White Sucker
X-04-059	No suckers observed.
X-04-060	No suckers observed.
X-04-061	Simple habitat but grass bottom. Possible cattle pasture upstream (evidence from electric fence). No catch.
X-04-062	Wire fence across creek on upstream and downstream sides of dirt road.
X-04-063	Area where 2nd order tributary meets Westbourne Drain.
X-04-064	Low level crossing flooded. No culverts visible under crossing. No fish passage when water levels are low.
X-04-065	Released Northern Pike (803 mm), Walleye (297 mm), four and bullheads. Local knowledge: catfish and Walleye come up creek.
X-04-066	Observed two adult White Sucker.
X-04-067	Dead sucker on right bank. Dam is 1.5 m high. High velocity flow. Cobble, gravel, woody debris at foot of dam. Downstream from dam rotting vegetation, lots of methane production. Local knowledge: farmers block La Salle River further upstream with small culverts that prevent fish passage.
X-04-068	Long man-made riffle. One huge slumped bank (left bank). All suckers released. Other suckers observed.
X-04-069	Gradient control structure. No spawning suckers observed.
X-04-070	Corrugated metal pipes for 2nd order drain closed. Inlet to Elm Creek channel from 2nd order drain has been recently cleaned out.
X-04-071	Constructed riffle.
X-04-072	Observed suckers downstream of riffle. Left bank muddy.
X-04-073	Substrate is pure clay and black soil. Very shallow.
X-04-074	Oily film on surface of water. Deposition of organic matter. Rocks under bridge. Not much flow. Just grass and reeds on banks. No catch.
X-04-075	Cultivated land around.
X-04-076	Too deep to fish.
X-04-077	Methane bubbles coming out of substrate. Lots of bends, one riffle. Some sticks and logs in water.
X-04-078	Not much submerged vegetation. Grass only along banks.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-079	Top of corrugated metal pipes submerged by at least 0.3 m. Too deep to fish.
X-04-080	Only able to fish along shore, because too deep and high velocity. Three Black Crappies released (~80 mm, ~75 mm, ~45 mm).
X-04-081	Too deep to fish in pools. Mostly large rocks on man-made riffle. One visible riffle. Grass only on banks. High velocity flow.
X-04-082	Long grass along banks. Submerged vegetation present. Area where Carr's Creek flows into Springfield Road Drain.
X-04-083	Too dry to fish. No eggs found on riffles. Very low flow.
X-04-084	No Catch.
X-04-085	Too deep to fish. Very high velocity flow.
X-04-086	Mud blocking culvert inlet. Reeds growing at culvert outlet.
X-04-087	Too deep to fish. Severe cattle impacts. Poor habitat, all muddy clay substrate.
X-04-088	High velocity flow. Cultivated land around. Cattle pasture on right bank directly adjacent to drain. Mostly grass along banks.
X-04-089	Perched corrugated metal pipe (0.5m). Slumped left bank.
X-04-090	Local knowledge: lots of Northern Pike caught in upper Seine River, water depth drops here to ~15 cm in summer. Small trees and grass along banks.
X-04-091	Water level very high. Flooded land and over road. Lots of bends, not as many riffles.
X-04-092	Ripe male White Sucker (255 mm, release) mature dwarf? Scale samples taken for aging. Undercut banks, gravel, some rocks. Grass only along banks. Shallow pools have gravel substrate.
X-04-093	Too deep to fish.
X-04-094	Lots of spawning Fathead Minnows. One visible man-made riffle under bridge.
X-04-095	One Black Bullhead (205 mm) released. Two other bullheads observed. One visible riffle. Long grass and some small trees on banks. Shopping carts in drain.
X-04-096	Simple habitat but with submerged grass substrate. Lots of flooded land.
X-04-097	Lots of flooded land. Submerged grass substrate. Grass and some trees along banks.
X-04-098	No catch using seine. Channel depth is 1.5 m. Only fast/deep flow regime. Only grasses along banks. Pools absent.
X-04-099	No catch. Deep channel through the middle of the drain under the bridge ~1 m deep. Grasses only along banks. Some submerged vegetation and rocks under bridge, rest of drain is mud/clay bottom.
X-04-100	Fish passage is blocked by debris upstream.
X-04-101	Spawning male Fathead Minnow accidentally released. Flood control structure on Domain Drain. One visible riffle. Drain is just inside the Red River floodway west dike.
X-04-102	Undercut banks. Generally all flat water. Lots of submerged vegetation.
X-04-103	Lots of Common Carp observed. Common Carp (643 mm) released. Gravel, sand, some submerged vegetation in pools. Undercut banks. Just grasses along banks.
X-04-104	Many Common Carp observed. Too deep to fish.
X-04-105	Carp observed upstream of culvert inlet. Very high velocity flow through culvert.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-106	Local knowledge: suckers observed in river. Undercut banks. Submerged vegetation. Overhanging vegetation. Lacking rocks. Lots of bends, no riffles. Trees, shrubs and grasses along banks.
X-04-107	Road is flooded ~0.3 m. Two suckers observed crossing the low level crossing. Lots of bends. One long riffle. Large trees, shrubs and grasses along banks. Some root mat and some gravel in pools.
X-04-108	Cannot fish because of electric fence. Many riffles. One huge slumped bank ~7 m high.
X-04-109	No catch. Many riffles and bends. Some exposed banks. Not much submerged vegetation. Lots of sediment deposition.
X-04-110	Moderate cattle impact. River runs through pasture. Trampled bank. No woody debris. Many bends. Bare soil and closely cropped vegetation along banks.
X-04-111	Corrugated metal pipe's diameter is 3 m. Not able to fish because of electric fence.
X-04-112	Four juvenile White Sucker and two bullhead accidentally released. White Sucker caught above and below waterfall. Submerged grasses, cobble/boulder substrate and woody debris provide cover. Light cattle impact on downstream side of crossing. Shrubs, trees and grasses along banks. Large deep pools.
X-04-113	Not correctly mapped. Unable to seine due to dense submerged vegetation. Simple habitat with submerged vegetation.
X-04-114	Local knowledge: suckers use drain, Northern Pike come up creek, but not seen in last two years. High velocity flow over flooded low level crossing. Dead Common Carp on right bank. Grasses and small woody plants along banks. Mostly deep pools. Obvious bank slumping on right bank.
X-04-115	Right corrugated metal pipe has buildup of debris at outlet. Lots of undercut banks. Trees and grasses along banks. Very little root mats in pools.
X-04-116	Cattle impacts. Many obstructions to fish passage on this creek. Grasses and small bushes along banks. No larval drift catch.
X-04-117	Very little flow, all from recent rainfall.
X-04-118	Flooded low level crossing. Long riffle/deep pool/run/riffle sequence. Complex habitat at riffle. More channelization upstream. Undercut banks downstream. Downstream right bank has more vegetative protection.
X-04-119	Cattle impacts. One riffle and some bends upstream. All mud/clay bottom with some submerged vegetation in pools.
X-04-120	No Catch. Pool substrate is mud and decomposing organic matter
X-04-121	Cattle impacts. Common Carp (670 mm) released. One other adult Common Carp observed.
X-04-122	No flow through two right corrugated metal pipes. Local knowledge: suckers come up drain, Northern Pike caught slightly further upstream. Undercut banks.
X-04-123	Some bends. Agricultural land very close to drain. No visible riffles. Few shrubs, mostly grasses along banks. Some root mats and submerged vegetation in pools.
X-04-124	Flooded low level crossing. Submerged vegetation with few rocks in drain. Only long grasses along banks. Pool substrate is choked with submerged vegetation. Upstream is agricultural land, downstream is grown-in cattle pasture.
X-04-125	No flow. Downstream, cultivated fields right up to drain.
X-04-126	Simple habitat but with submerged vegetation. Methane production in sediments. Only slow/deep velocity/depth regime. Flat water (no riffles). Little submerged vegetation in pools.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-127	Simple habitat but with submerged vegetation. Large dead Common Carp caught in rocks. Dead bullhead caught in rocks. Corrugated metal pipe outlet perched 0.3 m. Rock Bass (234 mm, 221 mm, 262 mm) released. Northern Pike (347 mm) released. Common Carp (539 mm) released. Habitat composed of undercut banks, limestone and flooded bushes. One riffle observed at culvert outlet. Upstream only grasses along banks. Downstream there are bushes, grasses and small trees along banks. Pools too deep to fish.
X-04-128	White Sucker (272 mm) released. Dense submerged vegetation throughout. Mud deposits. Some bends.
X-04-129	White Sucker (212 mm, 249 mm) released. Other White Sucker observed. Logs, some submerged vegetation and some undercut banks provide cover. Lots of bends and small riffles. Mostly grasses along banks.
X-04-130	Only run-off into drain. High sediment deposition. Lots of bends. Trees and grasses along banks.
X-04-131	Very little flow. Water likely from recent rainfall.
X-04-132	Cut banks, rocks, woody debris, but lacking submerged vegetation. Moderate sediment deposition in pools. High velocity outflow from corrugated metal pipes. Drain channelized upstream. Riffles and bends downstream. Only long grasses and bare mud along banks.
X-04-133	Unable to seine due to dense submerged vegetation. High methane production. Lots of long bends. Grasses and reeds along banks.
X-04-134	Simple habitat with submerged vegetation.
X-04-135	Cultivated land around. Low flow. Lots of vegetation.
X-04-136	Simple habitat with submerged vegetation. Pool is too deep to fish.
X-04-137	No larval catch. Large unidentified fish observed. Cattle impacts. Large deep pool upstream. Shale substrate. Stocked Walleye sign at dam and gate entrance. Undercut banks, rocks, and lots of submerged vegetation provide cover. Grasses only along banks.
X-04-138	Black bullhead (222 mm) released. Perched culvert 0.5 m. Electric fence along both sides of the road. Sand bars and shale sediment deposits. Bends in channel. Pasture upstream. One large, deep pool fished.
X-04-139	No catch. Some methane production. Deep pool. Cut banks.
X-04-140	Culvert outlet perched outlet (0.35 m).
X-04-141	Beaver dam upstream. Bulrush and arrowhead in creek. Six White Sucker (208 mm, 195 mm, 149 mm, 173 mm,188 mm, 154 mm) released. Grasses, shrubs and trees along banks.
X-04-142	Lots of bends. Lots of tree branches and woody debris upstream. High sediment deposition. Sand and shale sediment deposits. Cultivated field in close proximity to left bank.
X-04-143	Inlet and outlet not accessible due to barbed wire fencing.
X-04-144	Lakes formed by stream at inlet and outlet. Too deep to fish. Cattle impacts downstream.
X-04-145	Culvert outlet is perched (0.3 m). One elevated corrugated metal pipe set higher than other culvert is perched 1.5 m at inlet and 2 m at outlet. Lots of bends.
X-04-146	Shallow water ~20 cm deep. Perched outlets (0.2 m). Shale/mud substrate.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-147	Lots of spawning Western Blacknose Dace. Shale substrate. Corrugated metal pipe is perched 0.5 m. Shale sediment deposition.
X-04-148	Old bridge abutments under bridge. Too deep to fish. Heavy sediment deposition downstream is blocking most of the flow. Cultivated fields right up to drain downstream.
X-04-149	Lots of submerged logs. Sand substrate with no rocks. No catch from larval drift trap. Submerged woody debris in pools.
X-04-150	White Sucker (172 mm) released. Back eddies along banks. One riffle under bridge. No submerged vegetation in pools.
X-04-151	Beaver dam in drain. Two large mud bars. Heavy deposits of sediment and obstructions at bends. Bends are frequent and riffle is below beaver dam. Right bank not protected because of mowed lawn/park area.
X-04-152	Drain located in marsh (no agricultural fields). Dike downstream on left bank. Mud substrate only. Channel alteration at crossing. Bends are long. Riffle habitat associated with outlet only. Mostly long grass along banks.
X-04-153	Only able to fish along banks because creek is too deep. Methane gas production in sediments. Marsh habitat. Lily pads in creek. Headwaters of Pine Creek.
X-04-154	No catch. Good habitat: Undercut banks, submerged vegetation, cobble and logs in drain. Natural Resource Officer said this drain was stocked with trout and that people fish this creek. Lots of bends, and riffles created by logs. Channel alteration at bridge only.
X-04-155	Ten Yellow Perch released (66 – 85 mm). Riffle in culvert. Lots of bends, one natural riffle in reach. Grass downstream is mowed ~6m away. Cobble substrate throughout.
X-04-156	Bulrush in drain. 20 Central Mudminnow released. Good habitat downstream. Local knowledge: suckers and Northern Pike come up drain in spring. Drain is usually dry by this time of the year. Beaver dams downstream. Only grasses upstream along banks, but forest downstream. Channel is altered mostly upstream. Bends and riffles downstream only.
X-04-157	More young of the year Northern Pike observed. Many beaver dams downstream.
X-04-158	No flow.
X-04-159	One young of the year Northern Pike (94 mm) released. No bends.
X-04-160	Simple habitat but with submerged vegetation. Observed young of the year Northern Pike. Two Northern Pike (83 mm, 73 mm) released. One riffle in reach. Potential for riffles when water is lower.
X-04-161	No catch. Simple habitat but with submerged vegetation. Bulrush and filamentous algae mats in drain. Local knowledge: suckers come up drain in spring. Drain dries up in summer. Northern Pike may be coming down from Fish Lake.
X-04-162	High flow velocity. Two large Common Carp observed in pool at outlets. Outlets perched 0.4 m.
X-04-163	Simple habitat but with diverse submerged vegetation. Five young of the year Northern Pike donated to the New Iceland Heritage Museum.
X-04-164	A lot of submerged vegetation in drain. Eight Northern Pike donated to the New Iceland Heritage Museum.
X-04-165	Trickle of flow.
X-04-166	Dry. Not diked upstream on west bank.
X-04-167	Many Common Carp observed. Some submerged vegetation along banks. Very long bends. Grasses only along banks.
X-04-168	Sand and submerged vegetation substrate. Long grasses along banks.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-169	Both Northern Pike collected below perched culverts. No catch above perched culverts. Bulrush and arrowhead in drain. Channelization upstream. Slow flow though drain. Grasses all along banks, bushes downstream. Forest upstream on right bank. One bend downstream. Pools only deep at corrugated metal pipe outlets.
X-04-170	No catch. Arrowhead and bulrush in drain. A lot of submerged vegetation in drain. No visible riffles. Potential for shallow riffles. One deep pool (> 0.5 m).
X-04-171	Bulrush around drain. Culvert inlet submerged and outlet perched 0.3m. One riffle at outlet.
X-04-172	Northern Pike (247 mm) released. No bends, with occasional riffle. Large cobble near culvert outlet. Local knowledge: many large Northern Pike caught in drain earlier this year.
X-04-173	Dry.
X-04-174	Very little flow through culverts, more flow through rocks.
X-04-175	One Mudminnow (74 mm) donated to the New Iceland Heritage Museum. Cobble and dense algae mats in pools.
X-04-176	Sediment deposition mostly from gravel, sand and fine sediment in corrugated metal pipes. Very little water in channel. Long bends. Mostly long grasses and some shrubs along banks. Cobble sized hard substrate found only near culverts.
X-04-177	One young of the year Brook Stickleback released. Outlet perched 0.3 m. Bulrush around drain. Continuous riffle because of shallow water. Upstream the right bank is close to a cultivated field. One deep pool.
X-04-178	Four Common Carp released (634 mm, 620 mm, 600-650 mm). No flow through right corrugated metal pipe. Dirt along left bank and right bank upstream. Patches of bare soil along both banks.
X-04-179	Corrugated metal pipes blocked by debris. Deposits of organic matter along bottom. No riffles, some bends.
X-04-180	Too deep to fish. Drains Lee and Otter Lakes into Fisher Bay (Lake Winnipeg). Bulrush present in drain.
X-04-181	Bulrush in drain. Patches of eroded bank. Heavy muddy clay deposits. Less than 25% of channel substrate is exposed. No bends, some small riffles in reach.
X-04-182	Cattle impact. Bulrush present in drain. Local knowledge: pelicans in drain eating ~10 cm long fish. Lake stocked with Northern Pike ~35 years ago.
X-04-183	Drain full of bulrush and cattails. Cattle impact.
X-04-184	One large Common Carp observed in drain. Arrowhead observed in drain. Diked only on right bank upstream. All flat water. Long grasses, some bushes and reeds along bank. Long grasses in riparian zone.
X-04-185	Arrowhead and bulrush in drain. Moderate cattle-impacts. A lot of algae in drain. Six Northern Pike (199 mm, 99 mm, 99 mm, 81 mm, 84 mm, 93 mm) released. Seven Yellow Perch (93 mm, 71 mm, 73 mm, 68 mm, 69 mm, 68 mm, 66 mm) released. Long grass outside fence, grazed grass inside fence.
X-04-186	Dense growth of cattails growing in drain. No riffles, no bends. Some exposed banks. Pool only present under bridge.
X-04-187	Sixteen Northern Pike (107 mm, 130 mm, 124 mm, 131 mm, 109 mm, 124 mm, 120 mm, 120 mm, 118 mm, 91 mm, 108 mm, 107 mm, 112 mm, 112 mm, 116 mm, 110 mm) released. High velocity flow across dam. Some long bends. Grasses and reeds along banks.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-188	Many young of the year Northern Pike observed. Two large Common Carp observed. Arrowhead in drain. Island Lake Drain appears to have been recently cleaned or channelized.
X-04-189	No flow.
X-04-190	Moderate cattle impacts. Heavy deposits of mud. All flat water. Many exposed banks. All mud substrate in pools.
X-04-191	No flow. Dense cattail growth in drain.
X-04-192	Freshwater Drum (682 mm) released. Sand deposit at culvert inlet. Just grasses and reeds along banks. One deep pool downstream.
X-04-193	No flow.
X-04-194	Arrowhead in drain. No flow, standing pool. Organic debris at inlets. Mostly grasses along banks upstream. One deep pool.
X-04-195	Dead adult bullhead found in drain. Drain is flowing in the opposite direction of its usual flow. No riffles, no bends. Small trees and long grasses along banks.
X-04-196	Local knowledge: adult Northern Pike and Common Carp caught in drain during spring. Limestone along left bank at outlet. Some deep riffles due to high-velocity flow over gravel substrate. Mud and clay substrate in pools.
X-04-197	No flow.
X-04-198	Dense mats of filamentous algae throughout most of drain. All flat water. Long grasses only along banks. Mud and submerged vegetation dominate pool substrate.
X-04-199	Five Yellow Perch (84 mm, 88 mm, 122 mm, 88 mm, 81 mm) released. Lots of submerged vegetation. No riffles. Some long bends. Long grasses and reeds along banks. Mud and dense submerged vegetation dominate pool substrate.
X-04-200	Two Common Carp: (669 mm, 497 mm) released. Many Common Carp observed. Corrugated metal pipe culvert outlets are gated and closed. All long grasses along banks. Moderately deep pools present.
X-04-201	Arrowhead in drain. Channel meanders within drain. Turbulent flow, shallow(~0.03 m) gravel. Shrubs and grasses along banks. Mud, clay and some fine gravel present in pools. One deep pool at corrugated metal pipe outlet.
X-04-202	Dead bushes and trees sunken at outlets. Small riffles at outlet. Only long grasses along banks.
X-04-203	Only able to fish along banks because pools are too deep (over 1.5 m). Flooded grasses along banks. No riffles. Left bank only grasses, right bank all ages of trees and grasses. Submerged vegetation in pools.
X-04-204	Many tadpoles observed. Flooded long grasses along banks. Rocks embedded in detritus. All water is slow/ shallow flow regime.. No bends or riffles. Right bank has long grasses and bushes. Left bank only has long grasses and is adjacent to railway tracks.
X-04-205	Fine gravel deposits. Only channelized next to road. Undercut banks, overhanging vegetation. Riffle-run-pool sequences.
X-04-206	Inlets blocked by vegetation, debris and logs. Bulrush and arrowheads in drain. Cyprinids or Catostomids (~100 - 150 mm) observed. Unable to collect. Undercut banks. Channelized along gravel road. Left bank has long grasses. Right bank has all classes of vegetation. Submerged woody debris in pools.
X-04-207	Local knowledge: adult Northern Pike caught in Sprague Creek, White Sucker runs out of Whitemouth Lake. Occasional riffle. Gravel and cobble in pool. One deep pool present.
X-04-208	Heavy deposits of mud and some fine gravel. Many undercut banks. Long grasses, small bushes and reeds along both banks.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-209	Burbot (304 mm) released. Other Burbot observed. Undercut banks. Lots of cobble. Rocks along bank are very unstable. Upstream left bank is near grass field.
X-04-210	Local knowledge: "bass" caught in drain (information from Manitoba conservation receptionist). At least one young of the year White Sucker in seine sample. One White Sucker (~100 - 120 mm) observed. Cobble, submerged vegetation and undercut banks present. No riffles. Many bends. Mud with submerged vegetation in pools. Some cobble around bridge.
X-04-211	Too deep to fish. Thousands of young of the year Northern Pike observed. Very high velocity flow through corrugated metal pipe. River is marshy.
X-04-212	No catch. Piles of cleared dredged plant matter along banks. All flat water. Few long bends. Long grasses only. Small amount of submerged vegetation.
X-04-213	No catch. Arrowhead in drain. A lot of submerged vegetation in drain. No riffles or bends. Only grasses along banks. Pool substrate consists of mud and submerged vegetation.
X-04-214	Not mapped. Very little flow through drain.
X-04-215	No catch but five young of the year Northern Pike observed. No riffles, few very long bends. Some patches of loose gravel along banks. Long grasses and some shrubs along banks. Some submerged vegetation along banks.
X-04-216	No catch. Simple habitat but with submerged vegetation. Dense mats of submerged vegetation. Deposits of organic matter along bottom of drain. No riffles, few bends. Long grasses along banks. Pool substrate consists of mud, submerged vegetation and decomposing organic matter.
X-04-217	No catch. Simple habitat. Submerged vegetation. Many frogs and tadpoles in drain.
X-04-218	No flow. Dry. Ben Johnson drain is also dry.
X-04-219	Marginal habitat. Too deep to fish.
X-04-220	Drain is dry.
X-04-221	One Northern Pike (364 mm) released. One White Sucker (141 mm) released. Five Rock Bass (147 mm, 68 mm, 70 mm, 61 mm) released. One Common Carp (163 mm) released. One Tadpole Madtom (61 mm) released. Long riffle ~20m. Three Rock Bass, one Tadpole Madtom, one Common Carp donated to the Icelandic Heritage Museum.
X-04-222	Two White Sucker (142 mm,143 mm) released. Ten YOY White Sucker (~50 - 70 mm) released. Most riffle substrates are exposed. Long grasses and shrubs along banks. Pool substrate is dominated by cobble with some submerged vegetation.
X-04-223	One White Sucker (139 mm released). Arrowhead in drain. Embeddedness 30% in riffle but ~75% embeddedness in pools. Most riffle substrates are exposed. Many bends and riffles. No mature trees in immediate reach but present upstream and downstream.
X-04-224	No flow through drain.
X-04-225	Cement blocks make up ~30% of riffle. Slow/shallow velocity/depth regime found only along banks. Most riffle substrates are exposed. One visible riffle. Many long bends. Shrubs and long grasses along banks. Pool substrate consists of mud and rock with some submerged vegetation.
X-04-226	Too deep to fish. Submerged vegetation throughout drain.
X-04-227	Many riffles and bends. Some eroded areas along banks. Pool substrate consists of mud and rocks.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-228	No catch. Left corrugated metal pipe blocked at inlet. Right corrugated metal pipe blocked at outlet. Potential for riffles if water was not held back by a beaver dam. Long grasses along banks.
X-04-229	Too deep to fish.
X-04-230	Too deep in pool to fish. Right bank wire fence prevents access to riffle downstream.
X-04-231	No access to inlet or outlet because of wire fence.
X-04-232	Grates on inlet and outlet. Inlet extension also covered by grates. Marsh habitat around drain. Flow is altered by grates on corrugated metal pipe. Drain has some bends but no riffles. Pool substrate dominated by mud with some root mats, submerged vegetation and some fine gravel.
X-04-233	Riffle ~100 m upstream from culvert crossing. Too deep to fish. Many exposed mud banks.
X-04-234	Too deep to fish.
X-04-235	Many mud bars downstream.
X-04-236	Arrowhead in drain. Too deep to fish.
X-04-237	Too deep to fish.
X-04-238	Almost no flow through right corrugated metal pipe. Most riffle substrates are exposed. The substrate is cement at outlets. The creek is almost all riffles due to low flow. Long grasses and small shrubs along banks. Pool substrate consists of a mixture of soft sand and fine gravel.
X-04-239	One White Sucker (386 mm) released. Three Burbot (273mm, 283mm, 304mm) released. Two other adult White Sucker observed. Large dam present upstream. Rip rap along banks.
X-04-240	No flow through drain. Cultivated land around. Some standing water present in drain. Drain is choked with algae and submerged vegetation.
X-04-241	Wooden bridge allows dirt to fall into drain underneath. Standing pool. Drain is choked with algae.
X-04-242	Drain is dry with standing pools upstream. Cattle impact present. Pools are choked with algae and submerged vegetation.
X-04-243	Standing pool with little/no flow. Drain is choked with vegetation.
X-04-244	Too deep to fish. Many large trees/logs and debris create a jam under the bridge.
X-04-245	Burbot (304 mm) released. Other Burbot observed. Undercut banks. Lots of cobble. Rocks along bank are very unstable. Upstream left bank is near grass field.
X-04-246	Trickle of flow through drain. Mud substrate only. Drain is blocked with dead plant matter and garbage downstream.
X-04-247	Pool too deep to fish. Most of drain is choked with cattails.
X-04-248	Heavy deposits of fine sediment. Upstream, the top of the water is covered in mats of floating vegetation.
X-04-249	A lot of floating vegetation mats on top of water. Methane or hydrogen sulphide production in sediments. All flat water with long bends. Mostly long grasses along banks.
X-04-250	Trickle of flow through drain. Dense cattails throughout drain upstream. Diked on left bank downstream.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-04-251	Dead White Sucker found at outflow. Outflow is ~150 m from Assiniboine River. Very high velocity flow. Other pipe at outlet may be drawing water from Mill Creek to Assiniboine River. Some of the surrounding areas are flooded. One long riffle at outflow. Only mowed grasses along banks.
X-04-252	Too deep to fish. High velocity flow. Reach is 150 m from Assiniboine River.
X-04-253	Very long riffle. Very heavy deposits of fine sediment and silt. Cement substrate on riffle. Lots of layered cobble. Many raw banks. Mud dominant with large cobble in pools. Shorthead Redhorse (360 mm), White Sucker (288 mm), Sauger (295 mm, 242 mm and 203 mm) released.
X-04-254	Too deep to fish upstream and downstream of riffle. Water Survey of Canada hydrometric station at reach.
X-04-255	Observed bird flying away with fish in its mouth. Some bare banks. Man-made riffle. Long grasses along banks. Mud with some cobble in pools.
X-04-256	5.5 m fall at siphon inlet prevents fish passage. High velocity flow. Dead Walleye or Sauger (adult) found at siphon overflow outlet. Unable to calibrate dissolved oxygen meter. Channel catfish (333 mm) released. Layered cobble at overflow outlet. Bushes and grasses along banks. Mud with occasional rock in pools.
X-04-257	Dissolved oxygen meter not calibrating. Man-made riffle. Shrubs and long grasses along banks. Mud and boulders in pools.
X-04-258	Five White Sucker (181 mm, 147 mm, 124 mm, 140 mm, and 98 mm) released. Few bends. Only long grasses along banks.
X-04-259	Observed fishermen catching adult Northern Pike. High velocity flow at riffle. Flooded low-level crossing. Denil fish passageway full of debris. Large slumped bank at bend. All classes of vegetation along banks. Sand, gravel and little vegetation in pools.
X-04-260	Local knowledge: Walleye caught at crossing and upstream. Many sucker runs in past. Outlet velocities vary between 1.33 and 2.1 m/s Channelized only at crossing. Build-up of sticks and logs at culvert inlets.
X-04-261	Too deep to fish. Velocity at outlets measured between 0.59 and 1.29 m/s Velocity at inlets measured between 0.65 and 1.17 m/s
X-04-262	Arrowhead in river. Four Logperch (104 mm, 103 mm, 101 mm and 108 mm) released. Boulders and cobble throughout reach. One slumped bank. Not much submerged vegetation.
X-04-263	High flow velocity. Head at dam is 0.65 m above water downstream of dam. Too deep to fish.
D-05-001	At bankfull stage. Scheduled for bridge replacement.
D-05-002	Very low flow.
D-05-003	High flow velocities through culvert (1.2 m/s). No signs of fish movement.
D-05-004	White Sucker congregating upstream and downstream of culverts. No passage problems at this flow velocity.
D-05-005	No fish evident. Fairly high velocities through culvert. Some cobble/boulder substrate.
D-05-006	Almost dry. Trickle of flow only.
D-05-007	Lots of large White Sucker congregating in drain. Cement, open bottom, box culvert.
D-05-008	Lot of large White Sucker congregating. Local knowledge indicates not enough flow duration anymore. Used to have Walleye spawning in drain.
D-05-009	Lots of White Sucker congregating. Two small Northern Pike visible in grass cover. Local knowledge indicates sucker and Northern Pike run most years that have good flow. No run last year (2004).

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
D-05-010	Outflow from pond sampled for larval drift. No catch. New ice cover on pond. A lot of *Gammarus* spp. in sample.
D-05-011	Electrofisher boat operated by M. Lowdon and D. Watkinson.
D-05-013	Appears the sheet pile weir directs flow toward the inlet of Enhancement Channel. Heavy sediment (shale) deposits on banks, point bars and the inlet to the Enhancement Channel.
D-05-014	Enhancement channel has no flow. Mouth of the inlet channel at the Pembina River weir is blocked with sediment. Fish in the inlet are trapped at this time.
D-05-015	Observed two Northern Pike when electrofishing - unable to collect. Released two White Sucker (441, 404 mm)
D-05-016	Water over the road three weeks ago. Heavy shale deposits on banks.
D-05-017	Upstream end of diversion channel is well armoured. Too much flow to wade safely (near bankfull flow). Dip netted White Sucker, dace, Fathead Minnow, Common Shiner. Local says Common Carp recently moved into the area. Previously there were no Common Carp in Pelican Lake until screens in control structure were removed?
D-05-018	Released three Northern Pike (160, 158, 153 mm)
D-05-019	Released one Northern Pike (201 mm) and ten Brook Stickleback
D-05-021	Dip netted and released dozen of Brook Stickleback and a four Fathead Minnows
D-05-022	Almost dry, no flow
D-05-023	Released three White Sucker (430, 406, 404 mm) and five Creek Chub.
D-05-024	Cattle access to river, moderate impacts
D-05-025	Released >30 Common Carp D/S of Burr Oak Bay culverts. Released > 30 Fathead Minnows, three Brook Sticklebacks upstream of culverts (impassable at this flow, perched 0.5 m). Upstream storage in constructed retention ponds associated with a housing development. Small amount of purple loosestrife on site.
D-05-026	Some erosion damage around culvert. Some areas of heavy sediment deposition upstream of culverts.
D-05-027	Suckers caught only in areas of flow turbulence (channel restriction around rock dam)
W-05-001	More than 20 suckers dead on shore. Gated culverts on north side of right bank, downstream of the cobble armouring. A weir and riffle have been constructed. There is moderate cattail growth at water's edge.
W-05-002	There is a mat of terrestrial grasses in channel.
W-05-003	Diked. Surrounded by cultivated fields.
W-05-004	Diked.
W-05-005	Not diked.
W-05-006	Diked around cultivated fields.
W-05-007	Diked. Surrounded by cultivated fields.
W-05-008	Not diked. Light cattle impacts downstream. Upstream brush is very thick. Deep thalweg channel. Brush and vegetation collecting on barbed wire fence.
W-05-009	Diked. Local knowledge: no large fish observed in stream. Lots of submerged vegetation. Thalweg beginning to meander within channel.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-010	Diked.
W-05-011	Not diked.
W-05-012	Not diked. White Sucker released. Culverts in poor condition.
W-05-013	Not diked. Fairly natural stream conditions.
W-05-014	Not diked. Farmer drives tractor through drain. Post-spawn White Sucker collected.
W-05-015	Not diked. Marsh habitat.
W-05-016	Diked along railway tracks. 30+ suckers observed in the deep pool (attempts to collect them resulted in wet waders).
W-05-017	Not diked. Many other suckers observed but not captured. Light cattle impacts. Stream is meandering naturally.
W-05-018	Diked. The two smaller culverts are perched.
W-05-019	Not diked; Local knowledge: clay soils, short spring runoff, stream usually stops running in May, dries up expect for occasional rain. Terrestrial grass throughout channel.
W-05-020	Not diked. Trees and shrubs in water.
W-05-021	Not diked.
W-05-022	Not diked. Substantial amounts of woody debris in drain and plugging culvert.
W-05-023	Diked.
W-05-024	Diked. Dense growth of cattails. Northern Pike observed but not caught.
W-05-025	Not diked.
W-05-026	Not diked.
W-05-027	Diked. Dense aquatic vegetation.
W-05-028	Diked. Channelized. Dense instream vegetation growth.
W-05-029	Water down ~1 m. Observed ten large fish moving upstream through culvert. Not diked.
W-05-030	Standing pools only. Vegetative protection: grass and cattails. Diked roadside. No fish caught.
W-05-031	Not diked.
W-05-032	Not diked. Perched culvert outlets.
W-05-033	Diked right bank downstream of crossing.
W-05-034	Observed one bullhead but did not catch. Diked both sides. Farmer came and burned directly up to drain. Samples were mislabeled as "Menard Drain" but have correct site number. Only slow/shallow flow regime present. Pools on either side of crossing. Vegetative protection: all grasses.
W-05-035	Diked both sides. Farmer came by and burned grass and other riparian vegetation.
W-05-036	Diked both sides upstream, not diked downstream. Instream vegetation dominated by reeds. Vegetative protection: grasses. No fish caught.
W-05-037	Diked both sides. Vegetative bank protection: grasses. Only slow/shallow flow regime present. All flat water, no riffles, no bends, a few pools. No fish caught.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-038	Diked both sides. Vegetative bank protection: grasses. Only slow/shallow flow regime present. All flat water, no riffles, no bends, a few pools.
W-05-039	Diked on right bank.
W-05-040	Diked both sides. Farmer came by and burned grass and other riparian vegetation.
W-05-041	Not diked. Velocity/depth regimes present: slow/ shallow, slow/deep. Vegetative protection: all grasses.
W-05-042	Not diked.
W-05-043	Not diked. No fish caught.
W-05-044	Not diked. Too deep to fish.
W-05-045	Channelized, but not diked. Only slow/ shallow flow regime present. Vegetative protection: all grasses.
W-05-046	Not diked. No turbidity data, meter and vials frozen. Water filling less than 25% of the channel but still too deep to fish. Instream vegetation present. Three of four velocity depth regimes present - missing fast/shallow. Vegetative protection: all grasses.
W-05-047	Channelized. Diked roadside. Velocity/depth regimes: slow/shallow and slow/deep. Vegetative protection: all grasses. 1 large scour pool at downstream end of culverts.
W-05-048	Velocity depth regime: slow/ shallow; vegetative protection: all grasses. Channelized. Not diked. No riffles, 1 bend in reach. Substrate is hardpan clay in some areas.
W-05-049	Diked both sides. Slow/ shallow and slow/deep velocity/depth regimes present. No fish caught.
W-05-050	Channelized and diked both sides. Slow/deep and slow/shallow flow regimes present. No riffles no bends. Bank vegetative protection: all grasses.
W-05-051	Channelized and diked both sides. Slow/deep and slow/shallow flow regimes present. No riffles, 3 bends in reach. Vegetative protection: all grasses. No fish caught.
W-05-052	Not diked. Velocity/depth regime: slow/ shallow; vegetative protection: all grasses; pool substrate is matted submerged vegetation.
W-05-053	Channelized and diked both sides. Velocity/depth regime: slow/shallow; vegetative protection: all grasses; no riffles, no bends.
W-05-054	Channelized. Diked both sides. Velocity/depth regime: slow/shallow. Heavy sediment deposition, cobble very embedded. No riffles, no bends. Vegetative protection: all grasses. Very little vegetation in drain, mostly along edges. Had to discontinuing fishing - heavy sediment was too difficult to wade.
W-05-055	Not diked. Moderate cattle impacts downstream.
W-05-056	Not Diked, Inlet of culvert perched 0.2 m. Reach in very deep ravine surrounded by pastures. Caught White Sucker.
W-05-057	Not diked, Heavy cattle impacts, a section of left bank upstream from bridge has slumped and been trampled by cattle. No fast/deep flow regime.
W-05-058	Light cattle impacts upstream. Not diked. Suckers caught. Shale dominant substrate type. Moderate growth of aquatic vegetation in drain. Suckers spawning upstream from washed out road crossing. Four White Sucker caught and released.
W-05-059	No cattle impacts. Not diked. No fast/deep flow regime.
W-05-060	Not diked. No cattle impacts. Many bends created by bank slumping. Perched culvert outlet.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-061	Not diked. Light cattle impacts downstream, severe bank erosion. Culverts are perched at inlet and outlet about 0.2 m. Did not fish because of electric fence upstream and deep pool immediately downstream of culvert. Flow velocity at culvert inlet = 0.7 m/s.
W-05-062	Not diked. No cattle impacts. Water level has recently dropped 0.5 m.
W-05-063	Not diked. No cattle impacts. Released three Brook Stickleback.
W-05-064	Not diked. No cattle impacts.
W-05-065	Not diked. No cattle impacts.
W-05-066	Not diked. No cattle impacts. Not channelized.
W-05-067	Not diked. Moderate cattle impacts.
W-05-068	Diked roadside downstream; not diked upstream No cattle impacts.
W-05-069	Diked both sides. No cattle impacts. Slow/shallow and slow/deep flow regimes present.
W-05-070	Not diked. Light cattle impacts.
W-05-071	Diked both sides. No cattle impacts. Slow/shallow and slow/deep flow regimes present. No riffles, no bends. Channelized, 2 large (4 m) culverts.
W-05-072	Not diked. Light cattle impacts. Slow/ shallow and fast/ shallow regimes present.
W-05-073	Diked both sides. No cattle impacts. ** Local knowledge: (from local who resides at farm yard right bank downstream bridge crossing) main channel usually dries up, pool remains under bridge trapping Northern Pike and "silver- coloured fish that might be bass" - we thought they might be suckers. Slow/deep and slow/shallow flow regimes present. Channelized with no riffles. No fish caught.
W-05-074	Not diked. No cattle impacts. Water ~0.75 m deep with dense aquatic vegetation. Substantial rain all weekend.
W-05-075	Diked both sides. No cattle impacts. Too deep to fish. Substantial rain all weekend.
W-05-076	Diked both sides. No cattle impacts. **Local knowledge: local farmer says he has caught Northern Pike here, drain is always flowing and drain has to be dredged every few years. Caught one sucker, saw two others approximately the same length, but couldn't catch. Heavy sediment at mouth of culvert outlet. Riffles habitat has very little to no cobble/boulder. Turbulent flow over mud/clay.
W-05-077	Not diked. Moderate cattle impacts upstream of crossing. Culverts. Not channelized.
W-05-078	Not diked. No cattle impacts. Slow/ deep and slow/ shallow flow regimes present.
W-05-079	Diked roadside. No cattle impacts. Previously dredged. Slow/shallow and fast/shallow flow regimes present. Channelized. Three culverts, riffles downstream of culverts
W-05-080	Diked right bank. No cattle impacts. Ford crossing with Geoweb columns filled with sand and gravel.
W-05-081	Not diked. No cattle impacts. Slow/deep and slow/shallow flow regimes present.
W-05-082	Not diked. No cattle impacts. Bottom covered in root mat and submerged vegetation, marshy. Slow/ shallow and slow/ deep flow regimes present. Frequent bends. Bank vegetation consists of grasses with a few shrubs. No fish caught. Water has dropped 0.5 m recently.
W-05-083	Not diked. Light cattle impacts. Ford crossing without culvert. Water down 0.6 m since spring freshet.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-084	Not diked. No cattle impacts.
W-05-085	Not diked. Light cattle impacts. Hog barn less than 1 mile north. Only missing fast/deep flow regime. Not channelized, few riffles and bends.
W-05-086	Diked both sides. No cattle impacts. Slow/ shallow and slow/deep flow regimes present.
W-05-087	Diked roadside. No cattle impacts. No fish caught. Slow/shallow and fast/shallow flow regimes present. Channelized. Vegetative bank protection consists of mix of grasses and woody vegetation.
W-05-088	Not diked. No cattle impacts upstream, severe cattle impacts downstream.
W-05-089	Diked both sides downstream; not diked upstream. No cattle impacts.
W-05-090	Not diked. No cattle impacts.
W-05-091	Not diked. No cattle impacts.
W-05-092	Not diked. Light cattle impacts.
W-05-093	Diked both sides upstream; not diked downstream. No cattle impacts. Slow/deep and slow/shallow flow regimes present. No riffles, few bends.
W-05-094	Not channelized or diked. Riffle habitat associated with cobble and boulders at culvert inlet and outlet. No cattle impacts.
W-05-095	Culvert inlet drops vertically about 1.6 m, then flows through a horizontal culvert (for water storage?).
W-05-096	Diked left bank upstream; and diked both sides downstream from culvert crossing, Creek meanders quite a bit upstream from crossing.
W-05-097	Not diked. No cattle impacts. Water is backed up upstream (by > 0.6 m) by a gated culvert.
W-05-098	Not diked. No cattle impacts.
W-05-099	Not diked. Moderate to severe cattle impacts, banks are trampled and falling into creek. Slow/shallow, slow/deep and fast/shallow flow regimes are present in reach.
W-05-100	Not diked. Severe cattle impacts. Channel has been severely trampled upstream of crossing.
W-05-101	Diked left bank. No cattle impacts. Slow/shallow flow regime present. Two culverts. Channelized.
W-05-102	Diked roadside. No cattle impacts.
W-05-103	Diked both sides. No cattle impacts. Slow/ shallow and fast/ shallow flow regimes present. Channelized. 4 culverts. Dense aquatic vegetation.
W-05-104	Diked roadside (left bank). No cattle impacts. Drain is adjacent to pastures but cattle do not have access to drain. No slow/deep flow regime. Recently cleaned out with backhoe.
W-05-105	Not diked. No cattle impacts. No fast/ deep flow regime. Channelized upstream, not channelized downstream.
W-05-106	Diked roadside. No cattle impacts. Very heavy rains overnight. Slow/ shallow flow regime not present.
W-05-107	Not diked. Moderate cattle impacts.
W-05-108	Not diked. Deeply incised channel (approximately > 10 m) No cattle impacts.
W-05-109	Not diked. No cattle impacts. Crushed culvert and beaver dam upstream of crossing.
W-05-110	Diked right bank. No cattle impacts. Slow/ deep and slow/ shallow flow regimes present. Channelized. One culvert. No riffles.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-111	Diked both sides. No cattle impacts.
W-05-112	Not diked. No cattle impacts. Released: four White Sucker (two males, two females @ 150 - 185 mm); Black Bullhead @ 180 mm; and one Northern Pike @ 260 mm (All are fork lengths).
W-05-113	Diked both sides. No cattle impacts. Slow/deep and slow/shallow flow regimes present. Channelized, no riffles, thalweg meandering within banks.
W-05-114	Not diked. No cattle impacts. Slow/shallow only flow regime present. Not channelized. No riffles, three bends in sight from culvert crossing. Mostly gravel substrate in pools.
W-05-115	Not diked. Light cattle impacts. Fast/ deep flow regime missing. Banks are highly undercut and slumping. Shale substrate in pools.
W-05-116	Not diked. No cattle impacts. Missing fast/deep flow regime. Not channelized, frequent bends.
W-05-117	Not diked. No cattle impacts. Released: 28 Creek Chub, 13 Northern Redbelly Dace (vibrant red spawning colours), three brassy minnows (vibrant yellow spawning colours), 11 Western Blacknose Dace, 11 Fathead Minnows. Lots of cobble. Many riffles downstream, and a few upstream of reach. Missing fast/ deep flow regime.
W-05-118	Not diked. Moderate cattle impacts. Missing fast/deep flow regime. Juvenile suckers caught. Lots of dead fall but no new tree growth in riparian area. Cattle have access to drain. Shale substrate in pools.
W-05-119	Not diked. No cattle impacts. Missing fast/deep flow regime. Small amounts of aquatic vegetation.
W-05-120	Not diked. Velocity depth regime includes only slow moving water. Fields cultivated to the edge of the water.
W-05-121	Not diked. Surrounded by agricultural land.
W-05-122	Not diked. Surrounded by agricultural land.
W-05-123	Diked by the road. Too deep to fish. Beaver activity and one beaver carcass.
W-05-124	Not diked. No well-defined channel. Culvert overgrown by grass.
W-05-125	Not diked. No cattle impacts.
W-05-126	Not diked. Surrounded by agricultural land. No catch. Marshy conditions.
W-05-127	Not diked. No cattle impacts.
W-05-128	Not diked. Velocity depth regime includes fast/deep and fast/shallow. Riparian area is grassed. Standing pools present.
W-05-129	Diked on one side, Common Carp observed in drain and 700 mm Common Carp collected. Some flooded areas, water to field edges.
W-05-130	Diked on one side. No cattle impacts. Northern Pike observed in the pool but not caught. Slow/ deep and slow/ shallow flow regimes present.
W-05-131	Diked both sides. No cattle impacts.
W-05-132	Diked on one side. Fairly dense aquatic vegetation growth.
W-05-133	Dikes present and roads also serves as a dike. Significant flooding in the area.
W-05-134	Diked on one bank. Perched culverts downstream of road, flowing fast at full capacity, Weir downstream preventing fish movement upstream. No bends and very few riffles.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-135	Not diked. Marsh habitat. Yellow Perch observed but unable to collect. Too deep to fish effectively..
W-05-136	Not diked. No cattle impacts. Marshy/wet conditions.
W-05-137	Not diked. Fast/ deep flow regime missing. Many bends and riffles. Flow has eroded and disconnected a section of culvert.
W-05-138	Not diked, No cattle impacts. Fast/deep flow regime absent.
W-05-139	Not diked. No cattle impacts. Cobble placed around culverts. Forested riparian area.
W-05-140	Not diked. No cattle impacts. Cobble placed around culverts. Forested riparian area.
W-05-141	Not diked. Surrounded by agricultural fields, ~50 m from a garbage dump. Slow/deep and slow/shallow flow regimes present.
W-05-142	Diked on one side by road. Cleaned out this spring by a farmer. Dense floating vegetation. Local knowledge: according to a local farmer, drain flows all summer, has seen suckers and Common Carp.
W-05-143	Not diked. No flow.
W-05-144	Not diked. No cattle impacts. Marshy/ wet conditions.
W-05-145	Not diked. No cattle impacts. Soft substrate. There is a vertical culvert with water coming out of it adjacent to reach.
W-05-146	Not diked. No cattle impacts. Turbidity meter not working - reads everything as 0.00. Woody debris, submerged logs, undercut banks and cobble provide cover. One culvert. Many riffles and bends downstream. Bank slumping around culvert.
W-05-147	Not diked. Light cattle impacts (bison).
W-05-148	Not diked. Light cattle impacts.
W-05-149	Not diked. No cattle impacts. Turbidity meter not working.
W-05-150	Not diked. No cattle impacts. Suckers caught.
W-05-151	Not diked. No cattle impacts. Turbidity meter not working.
W-05-152	Not diked. Light cattle impacts. Flooded upstream: woody debris blocking culverts.
W-05-153	Not diked. Light cattle impacts.
W-05-154	Not diked. Moderate cattle impacts. Herd of cattle on right bank downstream of culvert. Deep/fast velocity depth regime missing.
W-05-155	Not diked. No cattle impacts. Perched culvert outlet. Woody debris and vegetation covering fence creating a backwater pool upstream. Just a trickle of flow through culvert.
W-05-156	Not diked. Moderate cattle impacts.
W-05-157	Not diked. Fishing stopped due to thunderstorm. ** Local knowledge: tributary usually dries up in the summer. This is the first time the 4th order has run in two years at this time of year. Cattle have access to drain upstream.
W-05-158	Not diked. Couldn't find culverts - submerged due to beaver activity.
W-05-159	Not diked. Deep/fast flow regime absent.
W-05-160	Not diked.
W-05-161	Not diked.
W-05-162	Not diked. Suckers caught. Heavy sediment deposition downstream of culverts. Flooded adjacent fields. Banks eroded around culverts. No pictures of site taken -digital camera not working.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-163	Diked roadside (left bank). Only slow/shallow velocity/depth regime present. Dredged earlier this year. **No pictures of site taken - digital camera not working.
W-05-164	Not diked. Moderate cattle impacts. Some flooded areas.
W-05-165	Not diked. No direct cattle impacts. Marshy conditions.
W-05-166	Not diked. No direct cattle impacts. Marshy conditions.
W-05-167	Not diked. No direct cattle impacts. Marshy conditions.
W-05-168	Not diked. Severe cattle impacts. No fish caught.
W-05-169	Not diked. Light cattle impacts. Boulder, cobble, submerged vegetation and undercut banks present. Rainbow Trout caught (and released) and White Sucker caught. Relatively high gradient outflow with placement of boulders forming pools. High frequency of riffles.
W-05-170	Not diked. Spring fed creek; spring located at the base of hill. Piles of woody debris deposited in riparian area from spring flows.
W-05-171	Not diked. White Sucker and Burbot caught. Culvert outlet perched ~1 m. Right bank is cultivated to edge.
W-05-172	Not diked. No cattle impacts.
W-05-173	Not diked. White Sucker caught. **Sample mislabeled as W-05-172.
W-05-174	Diked roadside (left bank, south). Four weirs within a mile of reach; water drops ~1 m/weir. Weirs are cement and stone structures. All fast moving water. Rocky substrate present with mostly grassy bank vegetation.
W-05-175	Diked both sides. No cattle impacts. Flooded adjacent fields.
W-05-176	Diked roadside (left bank, south). No cattle impacts. Larger fish (Northern Pike) observed but unable to collect. Slow/deep and fast/deep velocity/depth regimes present.
W-05-177	Diked road side (right bank, south) No cattle impacts. Observed 15 other small Northern Pike that we couldn't catch. Some cobble and lots of submerged vegetation present. Missing slow/shallow velocity/depth regime. Channelized, no riffles or bends. Area fished had good riparian vegetative zone width, but all along rest of drain width is <6 metres.
W-05-178	Diked road side (left bank, south) No cattle impacts. Channelized. Submerged vegetation provides cover and creates riffle father upstream of culvert crossing.
W-05-179	Not diked. Moderate cattle impacts.
W-05-180	Diked left bank. Severe cattle impacts. Drain substrate downstream of culvert crossing is pummeled by cattle. Bottom changing frequently. Culverts are submerged. Too deep to fish immediately upstream and downstream of culvert crossing.
W-05-181	Diked road side (right bank, south) No cattle impacts. Lots of submerged vegetation, no undercut banks, snags or woody debris present. Channelized with no riffles or bends.
W-05-182	Diked roadside (left bank, south). No cattle impacts. Drain is full of Northern Pike - we saw >20 in addition to our catch.
W-05-183	Diked both sides. Drain dredged this year or last - minimal/ poor habitat for fish. Fast/ shallow only flow regime present.
W-05-184	Not diked. No cattle impacts.
W-05-185	Not diked, no cattle impacts. Choked with algae and other aquatic vegetation. Slow/ deep and slow/ shallow regimes present. Not channelized, no riffles, many bends.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-186	Too deep to fish, abundant algae growth. Many large logs and woody debris in creek. No access through gate. Not diked. No cattle impacts.
W-05-187	Too deep to fish beyond road overflow and edges. No fish caught. Not diked. No cattle impacts. All four velocity/depth regimes present.
W-05-188	Young of the year suckers caught and released. Not diked. No cattle impacts. Many eroded areas; bare exposed banks frequent along straight sections. No submerged vegetation. No cattle impacts. Diked right bank (south) side. Slow/deep, slow/shallow, and fast/ deep velocity/depth regimes present.
W-05-189	Diked both sides. No cattle impacts. ** Released 1 Northern Pike (fork length = 145 mm) **Released 19 young of the year suckers (same size as those in sample) Note: Samples labeled 3rd order tributary to Goertz drain. Cattails and undercut banks present. Mud and sand substrate, little root mat, no submerged vegetation. 1 deep pool at culvert outlet. Slow/ deep and slow/ shallow flow regimes present.
W-05-190	Upstream: diked left bank (road, north side); downstream: diked both sides. No cattle impacts. **Observed Northern Pike (small ~5 cm in length) **Local knowledge: suckers come up in spring; occasional Northern Pike caught. Channelized. All grasses upstream. 25% tree covered banks downstream reach. All mud, some rood mats, and submerged vegetation present. Slow/shallow, slow/deep flow regimes present.
W-05-191	Dense algae and submerged vegetation growth. Diked roadside. No cattle impacts. Lots of filamentous algae in drain. Slow/shallow and slow/deep regimes present. Bank vegetation consists of grass with some mud/soil exposed. Mud substrate with heavy instream and submerged vegetation.
W-05-192	Diked both sides. No cattle impacts. Choked with cattails upstream and downstream of culvert crossing. No flow, very little standing water in drain.
W-05-193	Diked both sides. No cattle impacts. **Sucker caught. Slow/deep and slow/shallow regimes present. No bends or riffles. Clay banks. Bank vegetation is mainly grasses with a few shrubs. Submerged vegetation and instream vegetation present. Mud, clay, sand and gravel substrate in pools.
W-05-194	Diked both sides. No cattle impacts **Young of the year White Sucker and Burbot caught. Dense submerged vegetation, instream vegetation, present. Some rocks at culvert, undercut banks present. Good habitat around culvert, but marginal-poor habitat further upstream and downstream of culvert. No riffles or bends.
W-05-195	Diked both sides. No cattle impacts. No flow.
W-05-196	Diked both sides. No cattle impacts. ** Suckers caught. Substrate mostly exposed. Channelized in past, starting to meander. Riffles downstream every 30 m; some meanders. Pool substrate: clay, cobble and small boulders. No aquatic vegetation. Very few small deep pools.
W-05-197	Too deep to fish. Large waterfall is potential barrier to fish passage. Natural habitat and waterfall. Not diked. No cattle impacts.
W-05-198	No cattle impacts. Not diked. Drain is choked with cattails. Little to no flow. Some standing water.
W-05-199	No cattle impacts. Not diked. Crosses PTH #3.
W-05-200	No cattle impacts. Diked both sides. Clay substrate.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-05-201	Diked roadside (left bank). No cattle impacts. Some submerged vegetation and emergent vegetation. Slow/deep and slow/shallow regimes present. Bottom changing frequently. Channelized, cobble present to stabilize banks downstream of culvert. Many bends upstream of 2nd culvert crossing (man-made) which is upstream from a natural ford crossing. Mud/clay substrate in pools.
W-05-202	Diked road side (right bank). No cattle impacts. Slow/ deep and slow/ shallow flow regimes present. Clay substrate with a layer of vegetation.
W-05-203	No cattle impact. Not diked. ** Caught young of the year White Sucker and Northern Pike. Saw four other Northern Pike - a large one of ~ 500 mm. All four velocity/depth regimes present. No channel alteration except around bridge. Many bends. Riffles caused by fast water on bends. Mud and sand substrate in pools.
W-05-204	Moderate cattle impacts. Not diked.
W-05-205	Not diked. No cattle impacts. **Sucker and Northern Pike caught. Two culverts, possibly three (1 hidden). Many bends. Banks are stable except for along road washout. Pool substrate: parts with firm gravel and parts with soft sand and dense vegetation.
W-05-206	Diked roadside (left bank). No cattle impacts
W-05-207	Not diked, no cattle impacts. **Caught bullheads, Burbot and lots of young of the year Common Carp. Slow/deep and slow/shallow regimes present. Occasional bend, no riffles. Mud substrate. One deep pool under bridge, small shallow pools downstream of bridge.
W-05-208	Not diked, no cattle impacts. Fast/ deep flow regime missing. Natural channel, one small wooden quad/walking bridge. Many bends, a few riffles. Woody debris, undercut banks and some rocks and gravel provide cover.
W-05-209	Not diked, no cattle impacts. **Dissolved oxygen meter not working. Natural, many bends with a few riffles upstream of culvert crossing.
W-05-210	Not diked, light cattle impacts. Too deep to electrofish downstream of culverts. Fenced off on both sides.
W-05-211	Not diked, no cattle impacts.
X-05-001	Some deep pools. No fish caught. Electrofisher and conductivity meter not working.
X-05-002	Electrofisher and conductivity meter not working. More flow through north culvert. Some boulders and undercut banks. Small bends. Mostly mud substrate. Slow/ deep, slow/ shallow flow regimes present.
X-05-003	Silt substrate at upstream of culvert. Lots of cattails in drain. No flow. Grassed banks. Mud and clay substrate.
X-05-004	Trickle of flow. Cattails in stream. Standing shallow pool.
X-05-005	Moderate cattail growth. Grasses in drain. No flow. Missed three minnows. Slow/shallow flow regime present. Grassed banks.
X-05-006	Mowed grass banks. Cattails in drain.
X-05-007	Two sucker eggs found. Released three White Sucker 240-440 mm female, 480 mm post spawn male. Suckers in poor condition. Very low flow. No fish passage over riffle. Bank slumping on downstream side. Mowed grass banks.
X-05-008	No flow. Small pools of water surrounded by cattails.
X-05-009	No flow. Drain choked with cattails.
X-05-010	Drain choked with cattails. Burned dike vegetation upstream. Drain is dry further upstream.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-011	Deep water at culvert crossing only. Shallow water with emergent vegetation upstream and downstream. Grassed banks.
X-05-012	Grassed banks. Mud, clay, silt and some submerged vegetation in pool. Deep pools at crossings.
X-05-013	Standing scour pools below culverts. Dry upstream and downstream. No flow. Moderate growth of cattails in drain. Heavy growth of terrestrial grasses in drain.
X-05-014	No flow. Very shallow standing water. High silt deposition at inlets.
X-05-015	Little flow through drain. Terrestrial grasses in drain upstream and downstream of culvert. Algae growing in drain. Cobble, vegetation and algae provide some cover. Slow/shallow and fast/shallow flow regimes. One shallow riffle in reach. Grassed banks, with some shrubs downstream.
X-05-016	Some flow. Heavy growth of terrestrial grasses in channel.
X-05-017	Very poor riparian zone with only mud and almost no grass along banks (due to clean-out). A new drain connects with channel at outflow.
X-05-018	Approximately 30 suckers in culvert, below woody debris (obstruction?). Released 12 White Sucker (120-410 mm) and one Mudminnow (100 mm). Cobble substrate associated with culvert. Cobbles 75% embedded downstream of culvert.
X-05-019	Heavy sediment deposition, cobble and boulders are completely embedded. Lack of riparian area width. Fields cultivated almost to edge of Crooked Lake Channel and also upstream on unnamed tributary.
X-05-020	No catch. Dense growth of grasses in stream. Left bank upstream of culvert crossing has no riparian area width as field is cultivated right to drain. Substantial algae growth in drain. Slow/shallow flow regime only.
X-05-021	Potential barrier to fish passage during low flow at bridge located 80 m downstream. 2 spawning suckers observed upstream of barrier. One White Sucker released (fork length = 480 mm) showing spawning tubercles on anal and caudal fin. Right bank is grassed with a few small trees, left bank has native vegetation. Well defined thalweg with a good mix of run and pool sequences. Mostly channelized upstream of bridge with moderate cattail growth. All four velocity depth regimes present.
X-05-022	No catch with seine. Electrofisher and conductivity meter not working. More flow through north culvert. Some boulders and undercut banks. Small bends. Mostly mud substrate.
X-05-023	Constructed riffle at site. Deep pool with a depth greater than 1.5 m. Generally shallow water upstream and downstream with moderate cattail growth. Grassed banks.
X-05-024	Five adult suckers observed moving from the pool towards the riffle. Banks stable upstream but high erosion potential downstream of riffle with sediments infilling pool. Clay is dominant in pool. Note: invertebrate sample accidentally labeled as X-04-024.
X-05-025	No flow. Dense mat of filamentous algae. Dry except for standing pools. Standing pools are too deep to fish.
X-05-026	Cattle paths leading to drain. Many bare, muddy patches along banks. Many bends, bottom contours, and one riffle provide habitat diversity. Pools are a mix of large shallow, small shallow, and small deep.
X-05-027	Dense algae growth. Downstream is choked with cattails. No culverts at cement ford crossing. Slow/shallow flow regime only. No riffles. Mowed/ burned grass in riparian zone.
X-05-028	Some flow. Dense algae growth.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-029	Habitat assessed for reach fished. Immediately downstream of reach, there are severe cattle impacts with high erosion potential and a lack of stable substrate. Stream natural with no cattle impacts upstream of crossing.
X-05-030	No catch. High flow velocity through culvert. Undercut banks, rocks, cobble, and lots of submerged vegetation. Sediment deposition, mostly sand and gravel. Many bends.
X-05-031	High velocity outflow. Moderate to heavy growth of terrestrial vegetation in drain. Cobble only present at riffle. Slow/shallow and fast/ shallow flow regimes only. One riffle visible in reach. Grassed banks are mowed down to edge of drain.
X-05-032	Deep run and pools. No catch. Observed approximately 15 cm long fish darting out of reeds. High flow velocity through culverts. Inlets angle slightly downward - at low water levels, culverts may be perched. Slow/deep, slow/shallow, and fast/deep flow regimes. All flat water. Grassed banks have been mowed.
X-05-033	No catch. Likely dry before the recent rains; drain is filled with terrestrial grass. Slow/shallow, slow/deep, and fast/shallow flow regimes. Grassed banks, with left bank mowed to the water's edge.
X-05-034	Recently cleaned out, with raw areas on right bank. Heavy sediment deposition.
X-05-035	Recent clean-out of cattails downstream. Few fish caught, mostly around culverts. Slow/shallow and fast/shallow flow regimes. Many exposed areas along banks. Closely cropped vegetation.
X-05-036	Dead suckers (obviously killed by people) observed in drain and along banks. One Fathead Minnow released.
X-05-037	Caught one Mudminnow, saw one larger fish that escaped.. Heavy submerged vegetation growth. Mowed grass along banks.
X-05-038	Released one White Sucker (fork length = 220 mm). Undercut banks and deadfall provide cover.
X-05-039	Drain is choked with cattails. Max depth is 0.3 m. No flow.
X-05-040	No catch. Heavy cattail growth. Slow/ deep and slow/ shallow flow regimes. All flat water. One very deep pool located downstream of culvert crossing.
X-05-041	No flow. Dense growth of grasses in stream. Cattails have been mowed upstream of crossing.
X-05-042	Released one White Sucker (fork length=220 mm) and one Central Mudminnow (total length = 190 mm). All flat water.
X-05-043	Culverts are almost submerged and the creek is too deep to fish. Area around stream is flooded. Many dead trees.
X-05-044	No catch. Grasses growing in much of the drain. Dense growth of algae. Deep pool downstream from culverts. Slow/deep and slow/shallow flow regimes. Banks are grassed. Mud and submerged vegetation present in pools.
X-05-045	Slow/deep and fast/deep flow regimes. Undercut banks, rocks and submerged vegetation provide some cover.
X-05-046	Local knowledge: farmer (living approx. 200 m south) says that Northern Pike and suckers come up this creek. Along right bank, the field is cultivated to the very edge of the creek. Mud substrate in pool.
X-05-047	Very high flow velocity. Depths more than 1.5 m in pools and run habitat.
X-05-048	Cement and cobble present in sections of drain. Grassed banks with a few shrubs.
X-05-049	Drain is choked with cattails upstream and downstream of culvert crossing. No flow.
X-05-050	Little flow through drain. Choked with cattails upstream and downstream of crossing.
X-05-051	Heavy sediment deposition downstream of ford crossing. Some dense algae growing in the stream. Zero catch with electrofishing effort.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-052	Very deep drain downstream of bridge with heavy growth of terrestrial grasses. Drain is choked with cattails 75 m upstream of bridge. Slow/deep and slow/shallow flow regimes.
X-05-053	No flow. Terrestrial grasses growing in drain.
X-05-054	One Brook Stickleback caught and released. There are no culverts at ford crossing. Grassed banks.
X-05-055	At the upstream side of the culvert crossing, the field is cultivated to the edge of the drain on the right bank. There is also an abundance of grasses and cattails in the drain. Downstream of the crossing, habitat is complex, characterized by complete canopy cover and an abundance of woody debris and deadfall in the drain. Excessive amounts of straw from the field upstream have accumulated in the drain, downstream of the crossing.
X-05-056	There is a very deep pool downstream of the culvert, otherwise, the drain is shallow and filled with terrestrial grasses. There is no defined thalweg.
X-05-057	No catch.
X-05-058	Highly flooded marsh area that is too deep and wide to fish.
X-05-059	Marshy, flooded area that is too deep to fish. The pool downstream of the culvert was greater than 2 metres deep.
X-05-060	One Central Mudminnow was released. Beavers blocked the culvert inlet and flooded the upstream. The road has washed out beside the culvert and substantial amounts of sediments have been deposited downstream of the crossing. We sank up to 1 m deep in the sediments and could not finish fishing the site. Slow/shallow, slow/deep, and fast/deep water flow regimes present.
X-05-061	Channel is greater than 1 m deep, reaching the base of both banks. Slow/deep flow regime predominant. Wide riparian area, with native vegetation.
X-05-062	No catch. Two good riffles were in the reach and there was an abundance of snags, woody debris, and undercut banks. Numerous *Gammarus* spp. Fish passage upstream is blocked due to a 3 m vertical drop into the culvert.
X-05-063	The area is flooded, with willows, shrubs, and tall grass flooded downstream of the crossing, and upstream of the crossing is marshy, with lots of open water and heavy growth of cattails along the edges. There is no defined channel downstream of the crossing, except for the very deep pool (>2 m) below the culvert.
X-05-064	One 90 mm Central Mudminnow was released. The upstream end of the culvert is almost totally blocked by woody debris. Slow/deep and slow/shallow flow regimes were present. The banks are grassed. One riffle located in the reach. The majority of the pools were large and deep.
X-05-065	Recent removal of riparian vegetation downstream.
X-05-066	Abundance of submerged vegetation and terrestrial grass in drain.
X-05-067	No catch with electrofisher and larval drift effort. There is optimal substrate and cover within the reach, with lots of deadfall, undercut banks, overhanging vegetation, and some areas of complete canopy cover. A large riffle is present upstream. All four flow regimes present.
X-05-068	The drain is choked with cattails, except for a standing pool.
X-05-069	Severe banks slumping downstream, with parts of the banks falling into the creek. Very high erosion potential.
X-05-070	A larval drift trap was set for 17 hours (17:30-10:30). No larval fish present in sample. Banks are grassed.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-071	Channel is shallow and filled with terrestrial grasses, though deep pools are present at the culvert inlet and outlet. No defined thalweg. Slow/ deep and slow/ shallow flow regimes.
X-05-072	Numerous caddisflies present in sample. Slow/deep and fast/shallow flow regimes predominant.
X-05-073	Culvert inlets and outlets are choked with cattails. Pools are too deep to fish (>1.5 m). No flow - standing pools only.
X-05-074	Channel is filled with cattails, grasses and sedges. Upstream is choked with cattails. Low to no flow. Pool associated with the cement box culvert was too deep to fish.
X-05-075	No flow. Shallow, standing water except for a deep pool downstream of the culvert. Too deep to seine (>1.75 m). Moderate growth of cattails in upstream and the drain is choked with cattails downstream of the pool.
X-05-076	Mostly dry, though some standing shallow pools are present. Substantial amounts of stubble have washed downstream from ditches around cultivated fields.
X-05-077	Culvert is perched approximately 0.2 m. There is a drop culvert with a trickle of flow.
X-05-078	Almost dry. No flow.
X-05-079	Very low dissolved oxygen. Banks are covered in long grass, with a few small shrubs.
X-05-080	Poor habitat with heavy deposits of sediments. Grassed banks.
X-05-081	Extremely heavy growth of algae instream. Heavy sedimentation. No catch. Slow/shallow flow regime only.
X-05-082	Dry.
X-05-083	No catch.
X-05-084	Shallow water throughout most of drain. A 1 m deep pool is associated with the culvert.
X-05-085	Slow/deep, slow/shallow and fast/shallow flow regimes present. Banks are grassed and moderately unstable. Larval fish caught with one dipnet sweep.
X-05-086	No catch. Slow/deep and slow/shallow flow regimes present. Narrow small riparian area width (< 6 m). Grassed banks.
X-05-087	No flow. Standing pool present.
X-05-088	Councilor for the area says that suckers and Northern Pike are frequently caught at this site. The last Walleye caught was 20 years ago. The riffle under the bridge was dry, though there were high flow velocities through two culverts below the riffle. Deep run with some undercut banks and lots of submerged boulders and rock. Caddisflies were abundant. Velocities for the right culvert were: inlet = 0.68 m/s, outlet = 1.01 m/s. Velocities for the left culvert were: inlet = 0.4 m/s, outlet = 1.02 m/s.
X-05-089	Too deep to fish (> 1.25 m deep at edges). Bank slumping and erosion scars are evident downstream, but are mostly healed over. Very turbid water.
X-05-090	Mix of mature trees, shrubs, and young trees in riparian area upstream of crossing. No flow. Standing shallow water with terrestrial grasses and cattails instream downstream of the culverts. Terrestrial grasses in channel upstream as well.
X-05-091	Water levels were very deep so only the edges of the river were fished. The riparian area was flooded and marshy. The right inlet was submerged and there was a high velocity outflow from the culverts. 20-30 fish (~20 cm) were observed upstream of the right culvert in a backwater pool.
X-05-092	Water levels were too high to fish. Riparian area is flooded approximately 80 m on each side of the banks.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-093	Banks are slumping around the pool, downstream of the culverts. Slow/ deep and slow/ shallow flow regimes. Banks are grassed.
X-05-094	Bulrush instream. Slow/deep, slow/shallow and fast/shallow flow regimes present. Grassed banks, moderately unstable.
X-05-095	Bulrush instream. Grassed banks.
X-05-096	No catch but a minnow was observed in the pool. Bulrush present in drain. Slow/deep and slow/shallow flow regimes present.
X-05-097	Pool too deep fish (>1.5 m). Choked with cattails and bulrush.
X-05-098	Deep pool (> 1.25 m) associated with bridge. Otherwise, water is shallow with bulrush and cattails instream. Banks are grassed.
X-05-100	Choked with cattails, except for deep pool associated with bridge.
X-05-101	Natural section with 3-5 m wide riparian upstream of culvert crossing. Willows and mature trees overhanging the water's edge. Very large pool downstream of culvert crossing, with erosion on left banks and light cattle impacts. Gradient control structure (weir and constructed riffle) downstream of large pool. Too deep to fish.
X-05-102	Many spawning Fathead Minnow. Choked with cattails throughout most of drain. Rocks with emergent vegetation and some submerged vegetation as cover. High sediment deposition under bridge. Slow/ shallow and slow/ deep flow regimes. Grassed riparian area with some shrubs.
X-05-103	Natural section with bulrush present below bridge. Slow/deep and fast/shallow flow regimes. Heavy deposits of fine sediments. Cattle impacted banks. Mud and clay substrate.
X-05-104	Good habitat. Released a Creek Chub (fork length = 20 cm) with red spawning tubercles. Mix of snags, submerged logs, undercut banks and cobble for cover. All four velocity regimes present. One large riffle within reach and many bends. Wide riparian area with native vegetation.
X-05-105	Banks are unstable downstream of bridge crossing, with high erosion potential. Mix of deep and shallow pools upstream with lots of submerged vegetation and woody debris in stream. Two small riffles and several bends in reach. Some bulrush present near pools and willows and mature trees as riparian vegetation. Poor habitat downstream, with eroded banks, submerged vegetation as the only cover, and mainly grass for riparian vegetation.
X-05-106	Fished a natural section with native riparian vegetation. Bulrush in stream. Substantial sediment deposition downstream. Slow/ deep, slow/ shallow and fast/ shallow flow regimes. Banks moderately unstable and slumping. Light to moderate cattle impacts.
X-05-107	Only fished the constructed riffle up to the weir because the water was too deep upstream and downstream. Released hundreds of Fathead Minnows and Creek Chub. Creek is beginning to meander within its banks. Slow/shallow, fast/shallow, and fast/deep regimes in reach. Grassed banks with some shrubs growing on the right bank upstream of the constructed riffle.
X-05-108	Cement box culvert. Stream flowing through a yard, where grass is mowed to the edges.
X-05-109	Heavy sediment deposition under bridge, forming bars. Hard clay substrate. Slow/deep, slow/shallow, and fast/shallow flow regimes. Riparian area approximately 6 m wide downstream of bridge and impacted by cattle upstream of bridge.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-110	At a natural section of the creek with a beaver dam upstream of the culvert crossing. There is an abundance of old and new tree fall. Abundant overhanging vegetation and also complete canopy in sections along creek. Water was flowing at an extremely high velocity: 1.58 m/s at inlet of culvert; 1.56 m/s in run, approximately 1.5 m in front of the culvert; 1.41 m/s at outlet; 1.13 m/s in rapids, approximately 2.5 m downstream of culvert outlet. Mostly riffle and rapid habitat downstream of culvert, with run and plunge pool upstream. Banks are severely eroded and down cut downstream of the culvert. A local said that the outflow to Shannon Creek from Lizard Lake has been opened up due to recent heavy rains.
X-05-111	Natural section of stream. Undercut banks, overhanging vegetation, deadfall, logs, boulders, and submerged vegetation provide cover. All four flow regimes present . Riffle substrates were mostly exposed. Excellent riparian vegetation and zone width. Even mix of pool sizes, with root mat and submerged vegetation.
X-05-112	A low-level cement ford crossing is present at the site, with a culvert located immediately West, adjacent to the crossing, through which the water is flowing. Moderate deposition of sediment. Mainly grassed banks, with a few mature trees. Cattle have widened the channel and created an abundance of hummocks in and adjacent to the creek.
X-05-113	No flow. Shallow pool and standing water with terrestrial grasses growing in the stream. Sand substrate with high sediment deposition. No submerged vegetation. Patches of bare soil are visible on the banks, but mostly healed over.
X-05-114	Downstream of bridge is a natural section of stream with abundant overhanging vegetation, deadfall, sections of complete canopy, and an abundance of boulders and cobble in riffles and pools. Light cattle impacts upstream of bridge, resulting in hummocks approximately 1 m wide on each side of the stream. Slow/deep, slow/shallow and fast/shallow flow regimes. Riffle substrate was mostly exposed. Two deep pools within reach, but mostly shallow pools present.
X-05-115	Released one Fathead Minnow - no other catch. Substrate appears to be frequently disturbed by cattle. Severe cattle impacts on banks, with many raw areas. Grassed riparian area is closely mowed and/or grazed. One riffle present upstream of culvert.
X-05-116	Too deep to fish. Trickle of flow. Cattails and grasses in section of channel, with a deep pool associated with bridge.
X-05-117	Low flow. Moderate cattail growth in drain. Downstream of bridge, water fills only 5-10% of channel, though slow/deep and slow/shallow flow regimes are present upstream of bridge. Grassed banks. No riffle habitat.
X-05-118	Dense algae growth. Slow/deep and slow/shallow flow regimes. Grassed banks.
X-05-119	No flow through drain, though there is a trickle of inflow from ditch. Small trees are growing in drain.
X-05-120	Moderate algae growth in stream. Submerged vegetation, woody debris, and snags as cover. Fast/shallow and slow/shallow flow regimes.
X-05-121	Well defined thalweg upstream of culvert crossing. Downstream of crossing is choked with terrestrial grasses and cattails. Emergent vegetation and some boulders as cover. Slow/deep, slow/shallow and fast/shallow flow regimes present. Two shallow riffles present. Grassed banks.
X-05-122	Natural section of the stream with a good riffle/run/pool sequence and excellent riparian vegetation. Slow/deep, slow/shallow, and fast/shallow flow regimes.
X-05-123	Natural section of stream with good riparian vegetation and area. There are no riffles but a moderate amount of bends are present. Thalweg is well defined. Pool depths >1.2 m.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-124	No flow. Shallow, standing water only. Terrestrial grasses fill drain. The tributary runs through a pasture downstream of the bridge crossing.
X-05-125	Outlet is perched approximately 30 cm. Released one White Sucker (FL-220 mm). Bulrush is present along banks upstream of culvert. Severe cattle impacts with raw areas on banks upstream of the crossing. Abundance of root mats and deadfall in the stream. All four velocity-depths are present.
X-05-126	Salamander found in the drain. Slow/deep and slow/shallow flow regimes.. Stream has many bends. Banks are moderately unstable due to cattle impacts and bank slumping.
X-05-127	No catch. Salamander caught. Bulrush in creek. Slow/deep, slow/shallow and fast/shallow flow regimes present. Grassed banks with moderate cattle impacts.
X-05-128	Some bulrush near the culverts. Severe scouring of banks and cattle impacts. Many shallow riffles. Grasses and small shrubs on banks.
X-05-129	Drain is choked with cattails. Some bulrush present. Lots of submerged vegetation in pool under bridge.
X-05-131	High water levels - too deep to fish. Marshy riparian area.
X-05-132	Bulrush in creek. Many small fish (total length = ~2 cm) observed swimming through the culvert.
X-05-133	Severe cattle impacts downstream of crossing. Bulrush present in stream, as well as a variety of other emergent vegetation. Marshy upstream of crossing.
X-05-134	No picture of outlets due to excessive growth of the grasses. Heavy growth of terrestrial grasses in drain. Flowing due to recent rains.
X-05-135	Upstream of the culvert crossing is choked with cattails. A large pool is located below the outlets and was 1.5 m deep at the edge.
X-05-136	Bulrush present in stream. High water levels. Pool below bridge was very deep thus only the edges were fished. No catch.
X-05-137	Bulrush present. Many cattle trails, closely cropped vegetation, and raw areas along banks upstream of the crossing. Bank scouring also present. Banks covered by native vegetation downstream of crossing. All four velocity-depth regimes present.
X-05-138	Bulrush in drain downstream of culvert crossing. Substrate disturbed by livestock accessing the drain.
X-05-139	Sparse bulrush growing in drain. Fields adjacent to the drain are flooded. Slow/ deep and slow/ shallow flow regimes.
X-05-140	Local says that stream is dry most of the year. Recent beaver dam removal upstream. The outlet is perched ~30 cm. At inlet, there is a potential barrier to fish passage where soil and cattail growth is forming and creating a drop in front of the inlet. 5 cm Northern Pike observed.
X-05-141	Choked with cattails upstream and downstream. Deep pool associated with culvert.
X-05-142	Choked with cattails downstream of culvert crossing and full of terrestrial grasses upstream of culvert crossing. Likely only flowing because of recent heavy rains. Low flow.
X-05-143	Large deep pool downstream of culvert (> 1.5 m). Too deep to fish. Fish (~ length 2-3 cm) observed in pool. Abundance of terrestrial grass and cattails in stream. Some flow, likely due to recent rains.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-144	Released hundreds of Brook Stickleback and Central Mudminnow. Inlets were submerged and one outlet was perched ~0.5 m. DO meter would not calibrate. Suboptimal cover with trees, root mats, cobble, and some submerged vegetation. All four velocity-depths present. Many riffles at outlet and flat water upstream and downstream.
X-05-145	Dissolved oxygen meter would not calibrate. Bulrush present. Light cattle impacts upstream of crossing. Optimal substrate and cover, with undercut banks, cobble, boulders, deadfall, overhanging vegetation and submerged vegetation. All four velocity-depth regimes present and very little sediment deposition or embeddedness. Relatively frequent occurrence of riffles and good riparian zone width and vegetation.
X-05-146	Could not cross farmer's fences to get the inlet pictures. Some bulrush present. High turbidity and deep, fast water made fishing difficult. Missed several minnows and two large White Sucker (fork length=~25 cm). Water was primarily deep run with some shallow run and deep pools.
X-05-147	Cattle trails leading to the river upstream of the culvert crossing. Very wide channel and too deep to fish.
X-05-148	Dissolved oxygen meter would not calibrate. No catch. Heavy growth of terrestrial grass in drain downstream of bridge. Water smells like decomposing vegetation.
X-05-149	No flow. Standing pools below culverts. Grass too tall to take culvert inlet and outlet pictures.
X-05-150	Dissolved oxygen meter would not calibrate. Bulrush present at river edges. Thousands of young-of-year fish present. Culvert outlet was perched approximately 0.2 m. Even mix of large deep, small shallow, large shallow and small deep pools. Stable banks with good riparian vegetation.
X-05-151	Arrowhead and bulrush present. Sand bars have formed at outlet. Suboptimal substrate and cover, with limited submerged vegetation, undercut banks, overhanging vegetation, emergent vegetation and some rock. Stable banks with wide riparian zones consisting of native vegetation.
X-05-152	Choked with cattails upstream and downstream of culvert crossing. Little flow.
X-05-153	Dissolved oxygen meter would not calibrate. No catch. Bulrush in creek. Substrate comprised of boulders, cobble, and gravel, with abundant submerged vegetation.
X-05-154	Dissolved oxygen meter would not calibrate. Outlet was perched ~ 25 cm. Bulrush and sedges in creek. Severe cattle impacts downstream of reach. Left bank is raw and highly unstable. Hundreds of minnows observed in plunge pool beneath culvert. Relatively frequent occurrence of riffles. Slow/deep, slow/shallow and fast/shallow flow regimes present.
X-05-155	Abundant of cobble, boulders, sedges and a variety of submerged vegetation in creek. Many small shrubs growing along bank and overhanging parts of the creek. Heavy growth of algae on cobble in riffles. Dissolved oxygen meter would not calibrate.
X-05-156	Choked with grasses, sedges and cattails upstream of crossing. Downstream is choked with cattails. An abundance of bushes are present in the riparian zone downstream of the crossing.
X-05-157	No catch. High sediment deposition. Cobble and rock are 75-100% buried with sediments. Lots of submerged vegetation, arrowhead, and sedges in stream. Cattails present in channel downstream of bridge. Cattle have created hummocks and bare exposed sections along edge of creek.
X-05-158	Choked with cattails upstream and downstream of culvert crossing. Trickle of flow through culvert.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-159	Pools present below inlet and outlet were too deep to seine. Bulrush present. Choked with cattails upstream and downstream of pools.
X-05-160	Wide, flat channel with shallow water, except for the pool located at the outlet. Choked with cattails upstream and downstream of crossing.
X-05-161	Raw areas along banks upstream of crossing due to cattle impacts. Drain is choked with cattails. Slight flow through culverts.
X-05-162	Most of reach was too deep to fish. We were only able to fish below the bridge. DO meter would not calibrate. Slow/ deep, slow/ shallow and fast/ shallow flow regimes present.
X-05-163	DO meter would not calibrate. Choked with emergent vegetation upstream of culvert crossing. Abundant growth of bulrush. No catch. Variety of submerged vegetation and emergent vegetation species in drain.
X-05-164	Dissolved oxygen meter would not calibrate. Heavy growth of cattails and floating macrophytes upstream and downstream of culvert crossing. Heavy growth of algae. No catch.
X-05-165	Riparian area is flooded. Heavy growth of terrestrial grasses in drain downstream of culvert crossing. A small riffle is associated with the outlet. Banks are mainly grassed, with a few willows and shrubs.
X-05-166	Very high flow velocity through culverts due to recent rains. Area around creek and upstream of crossing is flooded. Combination of high velocity flow and cattle impacts have resulted in bank erosion. Outlet is perched ~ 2 m, causing a barrier to fish passage. Unable to fish because of high barbed wire fencing.
X-05-167	Lots of flow due to recent rain. Bulrush present in channel. Some cattle impacts.
X-05-168	High flow due to recent rain. Culvert is submerged. Bulrush present in creek. Three riffles within reach. Stable banks with native riparian vegetation.
X-05-169	Raw banks downstream of culverts due to cattle crossing the creek. Two riffles located within reach. Culvert outlets perched ~0.2 m.
X-05-170	Inlet is submerged, no photo taken. Plunge pool below outlet with fast, deep run. Flooded riparian area upstream of crossing. Creek was too fast and deep to fish.
X-05-171	Long run upstream of culvert crossing. Highly turbid water made it difficult to see fish. Approximately 200 m downstream of crossing,, a straw bedding area for cattle is situated on the edge of the right bank, extending into the creek. Large riffle at the culvert outlet.
X-05-172	Flow is predominantly deep, fast run. The grassed edges of the channel were fished because the water flow was too high to wade the creek. Some cattle trails are present along the edges of the creek.
X-05-173	Slow/ shallow, slow/ deep, and fast/ deep flow regimes present. Channel is greater than 1.5 m deep except for below bridge. Arrowhead and a variety of aquatic vegetation present.
X-05-174	High water levels due to recent rains. Shrubs and trees within riparian zone are flooded. Mostly run habitat except for the flooded, grassy edges.
X-05-175	Fields adjacent to drain are severely flooded due to recent rain. Shallow water and the presence of terrestrial grasses in drain suggest that it is usually dry.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-176	No catch. Water is at bank full stage. Excessive growth of grasses within the channel. Bulrush present in some sections. Moderate cattle impacts throughout pasture. Cattle have widened and flattened the channel.
X-05-177	Local farmer says this creek dries up almost every summer. Some overhanging vegetation and root mats present. Abundance of submerged vegetation. Rock/cobble recently deposited at culvert.
X-05-178	Bulrush present in tributary. High water levels.
X-05-179	Banks are raw and muddy due to severe cattle impacts and bank scouring. Many point bars within drain. Usually dries up with low water levels.
X-05-180	Culvert inlets and left outlet submerged. Part of drain has washed over the road. Bulrush present in drain.
X-05-181	Submerged vegetation, root mats and cattail growth along edges of drain. Slow/deep, slow/shallow and fast/shallow flow regimes present. Grassed banks. Two hog farms nearby, located NE and NW of drain.
X-05-182	Deep channel (>2 m) downstream of culvert crossing. Slow/shallow, slow/deep and fast/deep flow regimes present.
X-05-183	Stable banks with some trees and shrubs present. Marginal substrate and cover.
X-05-184	The fields to the north were flooded and very turbid water. Flow into Boundary drain from the 2nd order tributary. Local said that the stream usually dries up in the summer.
X-05-185	Released one Common Carp (TL = 830 mm). Slow/shallow and slow/deep flow regimes. Grassed banks are mowed almost to edges of streams in some places though mature trees are present on banks.
X-05-186	Local has seen fish come up the drain in the spring during previous years but not this year. All flat water with no bends or shallow riffles. Moderately stable, grassed banks.
X-05-187	Water flow at >75% bank full status. Too deep to fish, culverts almost submerged.
X-05-188	No flow through the left culvert. Bulrush present in drain. Dense growth of algae. Released two Brook Sticklebacks and one Central Mudminnow. Downstream from the crossing, the riparian zone is <2 m. Riparian zone is >18 m upstream of the crossing
X-05-189	Lots of submerged vegetation and filamentous algae. Observed one Northern Pike (total length ~ 8 cm). Mostly slow/shallow flow regime.
X-05-190	Substantial cattail growth along both banks. No riffles within reach. A few bends are present.
X-05-191	Suboptimal substrate and cover, with snags, deadfall, undercut banks, overhanging vegetation, and submerged vegetation. Slow/deep, slow/shallow, and fast/shallow flow regimes were present.
X-05-192	Mostly a braided stream pattern with native vegetation (primarily sedges, grasses and shrubs) in the wide riparian zone. One deep pool (>2 m) present within reach. Substrate was primarily organic material. Little cover present. Relatively frequent occurrence of riffles and even mix of pools. The right culvert was perched 0.5 m and the left culvert was perched 0.75 m
X-05-193	High frequency of riffles within reach. Both culverts are perched and flow is only occurring through the left culvert. The right culvert is perched 0.2 m higher than the left culvert.
X-05-194	Heavy deposits of sand and gravel. Lots of snags, deadfall, undercut banks and overhanging vegetation in stream as cover. Stable banks with native riparian vegetation.
X-05-195	All culverts are perched 0.5 to 0.75 m. Abundant growth of algae in drain.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
X-05-196	Abundance of terrestrial grasses and shrubs growing in channel. Slow/shallow and fast/shallow flow regimes.
X-05-197	Trickle of flow. Drain is choked with cattail and some willows are growing within the drain, downstream of the culvert crossing.
X-05-198	Frequent riffles and an abundance of undercut banks and snags as cover. Canopy upstream with a mix of overhanging vegetation and canopy downstream of crossing. Deposits of silt and sand on bends and at obstructions. Deposits of silt and sand also present on banks due to high water.
X-05-199	Thousands of minnows present beneath culvert, which is perched 0.1 m. Lots of woody debris, undercut banks, overhanging vegetation, and cobble in the channel downstream of the crossing.
X-05-200	Suboptimal substrate and cover, with cobble, submerged vegetation, undercut banks, and overhanging vegetation. Slow/deep, slow/shallow, fast/deep and fast/shallow flow regimes were present. Downstream of bridge, the riparian zone is less than 6 m. Upstream of the crossing, the riparian zone width is approximately 15 m.
X-05-201	Drain is heavily lined with dead algae mats. Dry, with a small pool at the inlets only. Inlets were perched 0.2 m.
X-05-202	Bulrush, sedges, and arrowhead in drain. Recently replaced culvert. Large backwater pool downstream of culvert.
X-05-203	Unable to fish because the electrofisher was not working. Many raw areas along banks due to cattle crossing the stream. High erosion potential during floods.
X-05-204	Channel was >1.5 m deep. Fished the drain from the banks. Tall grass and young shrubs on the banks.
X-05-205	Stream was dry 2 miles upstream of crossing. Shallow, standing pools present at inlets and outlets only. Choked with cattails. Willows growing in channel, upstream of culvert crossing.
X-05-206	Wet meadow dominated by sedges and grasses. No flow. Small shallow pool present at outlet. Local says that Northern Pike can be found in the drain located at the outlet of Norris Lake.
X-05-207	Heavy growth of algae.
X-05-208	Marginal habitat. Stable, grassed banks.
X-05-210	Abundant sedges, arrowhead and bulrush. A few cattails present as well. No riffles but a moderate amount of bends are present.
D-06-001	Light cattle impacts. Shale substrate predominant. Mowed banks. Released two Creek Chub @ 150, 160 mm.
W-06-001	Drain is back flowing from Lake Dauphin - yesterday strong South winds. Little to no flow. Site is at a ford crossing. Two culverts present; no riffles, a few bends. Marshy habitat. Diked both sides upstream, not diked downstream.
W-06-002	Not diked.
W-06-003	Moderate cattle impacts. Deep/fast flow regime missing. Not diked.
W-06-004	No catch. Light cattle impacts. Deep/fast flow regime missing. Not diked.
W-06-005	Not diked.
W-06-006	Not diked.
W-06-007	Local knowledge: suckers spawned at site last week. Most years Northern Pike also spawn here. There is a weir 1 mile upstream in the neighbour's property (fish blockage). Beaver dams are the main barriers to fish passage in the area. Other notes: Two culverts, no channelization. Not diked downstream, diked roadside upstream.
W-06-008	Severe cattle impacts. No catch. Not diked.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-06-009	Released a Fathead Minnow. Slow/shallow and slow/deep regimes present. One large culvert. Many bends present. Not diked.
W-06-010	Released twice as many Fathead Minnow and Brook Stickleback as kept. Channel ploughed under 100%. Natural bends present. Not diked.
W-06-011	Marshy habitat. Too deep to fish. Not diked.
W-06-012	Moderate cattle impacts downstream. Slow/ shallow and fast/ shallow regimes present. Large earth dam to hold back water upstream of site. Cattle have access to drain. Not diked.
W-06-013	Not diked.
W-06-014	Not diked.
W-06-015	Not diked. Moderate cattle impacts. Fast/deep flow regime missing. Evidence of past beaver activity. Few bends and riffles. Pasture downstream of culverts. Bank vegetation is all grasses.
W-06-016	Not diked. Lots of submerged vegetation with some cobble under bridge. Banks are undercut in some places. A few riffles and bends present. Bank vegetation is all grass.
W-06-017	Not diked. Slow/deep and slow/shallow regimes present. Some minor cattle impacts. Low flow has exposed many riffles. Very few bends. Banks upstream of culverts slumping. The only deep pool is under the bridge.
W-06-018	Not diked. Low flow, slow velocity. All woody vegetation has been removed. Little submerged and instream vegetation present.
W-06-019	Channelized. Diked roadside downstream. Diked both sides upstream. Released ~150 shiners. Water level rising due to inflow from lake. 3rd order tributary blocked by grate to prevent Common Carp from moving into Lake Francis. Gate has created a small waterfall to pool downstream. Lots of shiners and Common Carp. Some rocks and undercut banks present. Slow/deep and slow/shallow regimes present. No riffles or bends. Bank vegetation mainly grasses.
W-06-020	Not diked. Severe cattle impacts. Slow/deep and slow/shallow regimes present. Soft sediment and woody debris present. Channel has been straightened and all vegetation has been removed. Heavy sediment deposition.
W-06-021	Diked road side, right bank. No catch. Slow/shallow regime present. Channelized, no riffles or bends, bank vegetation consists of grasses.
W-06-022	Diked both sides. Deep/fast regime missing. Substrate is mainly mud/silt.
W-06-023	Not diked. Released one White Sucker. Fast/deep flow regime missing. Many bends and a few riffles are present.
W-06-024	Diked both sides. Severe cattle impacts present.
W-06-025	Diked both sides. Saw 40+ suckers at drain upon first inspection. Drain is channelized, the riffles are caused by channel constrictions and vegetation, and there are no bends, but thalweg is meandering within banks. Bank vegetation consists of grasses. Not enough water for deep pools to form.
W-06-026	Diked both sides. Released one Common Carp ~60 cm in length. Saw suckers and Northern Pike but couldn't catch them. Deep/fast regime missing. Bank vegetation is mowed/cleared.
W-06-027	Channelized and left bank diked. Moderate cattle impacts. Released one sucker. Fast/deep regime absent. One set of riffles. Cattle impacts are affecting bank stability. Bank vegetation is mainly grass. Pool substrate is highly variable.
W-06-028	Diked right bank upstream, not diked downstream. Released one Northern Pike.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-06-029	Diked both sides. Slow/deep and slow/shallow flow regimes present. Riparian vegetation cleared and mowed. Pool substrate consists of soft sediment with some submerged vegetation. The majority of pools are deep.
W-06-030	Diked both sides. Slow/deep and slow/ shallow regimes present. No riffles, meandering within bank. Banks are grasses only.
W-06-031	Diked both sides. Suckers and bullheads caught. Banks very unstable and slumping. No woody vegetation on banks, all grasses.
W-06-032	Diked both sides. Released 14 suckers, 15 Creek Chub. Stream is flowing under culvert on downstream side - culvert has become a barrier to fish passage. Diverse substrate provides lots of habitat. Old cattle pasture - in the past, cattle had access to drain upstream and downstream of crossing. Vegetative protection consists of grasses.
W-06-033	Diked one side downstream from crossing (spoil pile).
W-06-034	Not diked.
W-06-035	Not diked. culvert outlet perched ~1.1 m.
W-06-036	Not diked downstream, diked roadside upstream. Pool downstream of culverts too deep to fish. Slow/ deep and slow/ shallow regimes present. Channelized along road upstream, not channelized downstream. No riffles or bends. Vegetative protection consists of grasses.
W-06-037	Not diked. Released three Brook Stickleback. Slow/deep and slow/shallow flow regimes present. A few bends in reach. Deep pools much more prevalent than shallow pools.
W-06-038	Not diked. Nice habitat.
W-06-039	Not diked. Marshy habitat.
W-06-040	Not diked upstream, diked roadside downstream. No fish caught. Slow/deep and slow/shallow regimes present. Channelized downstream of crossing. No riffles, no bends downstream, meandering within banks. Vegetative protection consists of all grasses. Marshy habitat upstream.
W-06-041	Not diked.
W-06-042	Not diked. Moderate cattle impacts.
W-06-043	Not diked downstream, diked roadside upstream. Caught suckers. Slow/shallow flow regime present. No riffles, three bends in sight. Deep pools on either side of culverts.
W-06-044	Not diked. Local knowledge: farmer told us the drain only flows 2 weeks per year.
W-06-045	Not diked. Released: 11 suckers, five shiners, three Redbelly Dace, seven Western Blacknose Dace, seven Fathead Minnows, and seven Creek Chub. Light cattle impacts; pasture on both sides of crossing.
W-06-046	Not diked. No catch. Heavy thunderstorm the previous night. Substrate is mostly mud with some nature riffles and some channelization present. No submerged vegetation.
W-06-047	Not diked downstream, diked right bank upstream. Water control structure upstream.
W-06-048	Not diked upstream, diked along railway tracks downstream.
W-06-049	Not diked. Caught suckers. Left bank eroded at bend downstream of culverts.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-06-050	Not diked. Very little water 2-3" deep, trickling through drain. Nice habitat if more water were present. Stream drops 4-5 ft. through culvert. Eroded immediately upstream and downstream of culvert. Almost completely shaded by trees. Large rocks around culvert, mud substrate.
W-06-051	Not diked. Box culvert.
W-06-052	Not diked. Dry.
W-06-053	Not diked.
W-06-054	Channelized and diked both sides. Slow/deep and slow/shallow regimes present. Vegetative bank protection consists of grasses. All mud/clay substrate with a bit of sand immediately upstream of culverts. Appears to have migrated from road shoulder.
W-06-055	Diked right bank. Fast/deep regime absent. Substrate all clay with some instream vegetation present.
W-06-056	Not diked. Caught suckers. Slow/shallow and fast/shallow regimes present. Not channelized. Boulders around culverts. Many bends with a few riffles. Tree roots are holding banks together.
W-06-057	Not diked.
W-06-058	Not diked. Bullheads caught. No inlet pictures taken - sprayed with mosquito larvaecide seconds prior to taking pictures. A few bends present, and a large pool upstream of crossing.
W-06-059	Not diked.
W-06-060	Not diked. Released numerous Fathead Minnow, two bullheads. Caught bullhead, Common Carp, White Sucker. Saw but unable to catch one large Northern Pike ~650 mm. Slow shallow and slow/deep regimes present. Vegetative bank protection is grass only.
W-06-061	Not diked. Caught Northern Pike, saw two other Northern Pike but could not catch. Rust line on culvert outlet suggests high water mark is 2-3" above what is present today. Woody debris throughout channel.
W-06-062	Diked both sides downstream, upstream diked one side. Caught sucker. No snags, undercut banks or cobble. Some cover provided by submerged vegetation. Fast/deep flow regime absent. Channelized with no riffles. Bank vegetative protection is grasses. One deep pool downstream of culvert.
W-06-063	Diked both sides downstream, upstream not diked. Recently cleaned and graded. No bends, infrequent riffles observed. Banks are very unstable and raw. No submerged vegetation. Substrate consists of sand, silt and cobble. The majority of pools are shallow.
W-06-064	Diked both sides. No catch. Only cobble substrate present. Slow/ deep regime absent. Stream is meandering but banks have been recently reshaped or cleaned. Many riffles due to low water level, a few bends present. Pool substrate consists of rocks and fine sediment.
W-06-065	Not diked. No catch. Fast/ shallow and fast/ deep present. Pool substrate is mostly gravel/ cobble and boulders.
W-06-066	Not diked. Fast/ shallow and slow/ shallow flow regimes.
W-06-067	Not diked. Many riffles and bends. Riffles substrate rocks/gravel, with submerged vegetation and woody debris.
W-06-068	Not diked. Beaver dam removed recently. Numerous riffles.
W-06-069	Not diked. Water level is down ~ 0.3 m.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-06-070	Not diked. Suckers seen but not caught. Caught Burbot, Rock Bass and darter.
W-06-071	Not diked. Drain crosses gravel road into campground. Dike around Moose Lake and dam (metal control structure) to ensure high water levels in the lake. Water is ~3" at deepest point.
W-06-072	Not diked.
W-06-073	Not diked. Beaver blocked culverts at inlet, outlet is crushed. There is a trickle of water moving through crossing.
W-06-074	Not diked. A few bends, fewer riffles.
W-06-075	Diked both sides.
W-06-076	Not diked. Attempted to fish edges. No catch. Too deep to fish main channel. Fast/shallow flow regime only present in culvert. Flooded upstream. No riffles, many bends. Observed large fish entering culverts - looked like a Common Carp or sucker.
W-06-077	Not diked. Fast/ deep regime absent. A little submerged vegetation present.
W-06-078	Not diked. Northern Pike and sucker caught; one Northern Pike released.
W-06-079	Not diked. Fast/deep regime absent. Many bends and a few riffles downstream of culverts.
W-06-080	Not diked.
W-06-081	Diked both sides.
W-06-082	Diked both sides.
W-06-083	Not diked. Sucker caught. Ford crossing.
W-06-084	Not diked.
W-06-085	Not diked. Fast/ deep flow regime absent.
W-06-086	Not diked.
W-06-087	Not diked. Slow/shallow and fast/shallow regimes present.
W-06-088	Not diked. Released one Northern Pike and five Fathead Minnows. Pike had different colouring - had a black stripe off center along head and had a blue tinge underneath jaw. Snags and undercut banks present, No cobble. Marshy, vegetated substrate. Slow/ deep and slow/shallow regimes present. Many bends, no riffles.
W-06-089	Not diked. Suckers caught. Fast/deep regime absent. Cattle grazing on both sides of crossing. Moderate cattle impacts.
W-06-090	Not diked. Released one Rainbow Trout. Kept one immature Brown Trout, one immature Brook Trout. Tags in sample read "Pine River" instead of North Pine River. Nice habitat.
W-06-091	Not diked. Local knowledge: local told us he's never seen drain dried up and he has seen fish (species?) use it.
W-06-092	Not diked. Saw one Northern Pike. Many beaver dams, mix of snags, submerged logs, and undercut banks. Many bends.
W-06-093	Not diked. Fast/ deep regime absent.
W-06-094	Diked both sides. No fish caught. Slow/shallow and slow/deep regimes present. Channelized. Three gated culverts at crossing. No riffles or bends. Vegetative protection consists of grass with a few shrubs. Pool substrate is mainly mud.
W-06-095	Diked roadside.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-06-096	Diked both sides. Saw three Northern Pike 75 - 100 mm in length and 1 much larger ~300 mm stuck in pool by culverts. DO meter may not be working (algae decomposing, no riffles, little flow). Caught Northern Pike and White Sucker. Some cobble by culverts. Algae and submerged vegetation provides only cover. Slow shallow regime present. Channelized, no riffles or bends in sight. Vegetative bank protection consists of grasses.
W-06-097	Diked roadside. White Sucker, Black Bullhead and Northern Pike caught. Culverts are perched ~0.15 m.
W-06-098	Diked both sides. White Sucker caught. No fast/deep flow regime. Very few deep pools present.
W-06-099	Not diked. More than 15 large, dead Common Carp in drain.
W-06-100	Diked roadside. White Sucker and Yellow Perch caught. Observed Northern Pike but could not catch. Vegetative bank protection consists of grasses.
W-06-101	Diked both sides downstream, right bank upstream.
W-06-102	Diked both sides. Released several Mudminnow, Brook Stickleback and Fathead Minnows. Fast/shallow and slow/shallow regimes present. Vegetative protection consists of grasses.
W-06-103	Not diked.
W-06-104	Diked both sides. Water level has dropped 0.3 m. Channelized.
W-06-105	Diked both sides.
W-06-106	Diked both sides downstream, diked right bank upstream. Small cobble and a bit of vegetation are the only cover. Fast/shallow and slow/shallow regimes present. one riffle and three bends in reach. Vegetative bank protection consists of grasses. Pool substrate is mainly gravel/cobble.
W-06-107	Not diked.
W-06-108	Diked east side. Channelized, no bends.
W-06-109	Diked left bank and on roadside.
W-06-110	Not diked. Observed a mature White Sucker but could not catch.
W-06-111	Not diked.
W-06-112	Not diked. Fast/shallow and slow/shallow regimes present. A few bends in channel.
W-06-113	Not diked.
W-06-114	Not diked. Moderate cattle impacts. Suckers caught.
W-06-115	Not diked.
W-06-116	Not diked. Lots of fish in cobble downstream of culvert. Rocks and banks too difficult to traverse with electrofisher.
W-06-117	Not diked.
W-06-118	Not diked.
W-06-119	Not diked. Yellow Perch, White Sucker and Burbot caught. Released six suckers. Fast deep regime absent. Ford crossing and many bends. Very little root mat and instream vegetation.
W-06-120	Diked roadside. Overhanging vegetation throughout. Only about 0.1 m. of water in stream.
W-06-121	Diked left bank upstream, diked both sides downstream. Sucker caught. All shale substrate.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-06-122	Diked both sides.
W-06-123	Diked roadside.
W-06-124	Diked downstream. Lots of mud, woody debris and submerged logs. Some cobble downstream of bridge. A few bends present.
W-06-125	Dry. Not diked.
W-06-126	Not diked. Released one immature Smallmouth Bass, one sculpin (same as in sample), one Northern Pike and one Burbot (same size as those in samples). Substrate consists of boulders and cobble with vegetation and mud along the water's edge.
W-06-127	Not diked. Large beaver using culvert.
W-06-128	Not diked. Water appears to have dropped 0.3 m.
W-06-129	Not diked.
W-06-130	Not diked.
W-06-131	Not diked.
W-06-132	Not diked.
W-06-133	Not diked. White Sucker were caught. Lots of cobble and rocks present. Fast deep regime absent. Many riffles and bends present. Pool substrate consists of root mat and mud.
W-06-134	Not diked. Caught White Sucker and Shorthead Redhorse. Saw one Northern Pike and bullhead but could not collect. Substrate consisted mostly of cobble sized rocks.
W-06-135	Not diked
W-06-136	Not diked. Stream was back flowing from the lake - flowing east when it should be flowing west.
W-06-137	Not diked.
W-06-138	Caught sucker, bullhead. Site at Snyder Dam. No fast/deep regime. Not channelized or diked; one riffle, many bends. Dense duckweed present. No submerged vegetation or instream vegetation within fished reach.
W-06-139	Caught Northern Pike, bullhead, Sauger and Tadpole Madtom. Site at Hartney Dam. Not diked or channelized; many bends.
W-06-140	Caught bullhead, Silver Redhorse, White Sucker, Troutperch and Stonecat. Lots of algae present. Site at Souris Dam. Not diked or channelized; three riffles in sight, many bends.
W-06-141	Did initial (front page) assessment on August 1st; did water quality, habitat assessment and fishing on August 2. For consistency site assessment and pictures 15-21 recorded as August 1. Not diked or channelized. Many bends, four in sight downstream of dam. Released one Northern Pike 350 mm, five Shorthead Redhorse 220-290 mm. Saw a Rock Bass. Local knowledge: local has seen Walleye upstream of dam - he thinks they came from Oak Lake. That was when the water was much higher and there was less than 1 m drop over the dam.
W-06-142	No flow; standing pools only. Not diked. Dry at PR #344 crossing.
W-06-143	Diked left bank. Released large Freshwater Drum ~650 mm and Black Bullhead. Fast deep regime absent. Channelized, no bends, two riffles on either side of bridge. Grassed banks.
W-06-144	Not diked. Fast/deep flow regime missing.
W-06-145	Not diked. culvert outlet perched 0.3 m.

Appendix 7: List of any additional field notes recorded at sampling sites.

Site Number	Field Notes
W-06-146	No flow, standing pools upstream of crossing. Not diked. Maximum pool depth (1.3 m) under bridge. Dense vegetation would have made it impossible to catch fish. No undercut banks, very little cobble and snags. No riffles, many bends.

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-02-003	Looking across ford crossing, looking east	90	D-02-003_1-01
D-02-003	Looking upstream	180	D-02-003_1-02
D-02-003	Looking downstream	360	D-02-003_1-03
D-02-005	Looking upstream	180	D-02-005_1-04
D-02-005	Looking downstream	360	D-02-005_1-05
D-02-006	Looking east	90	D-02-006_1-06
D-02-006	Looking west	270	D-02-006_1-07
D-02-007	Looking east	90	D-02-007_1-08
D-02-007	Looking west	270	D-02-007_1-09
D-02-008	Looking downstream	0	D-02-008_1-10
D-02-008	Looking upstream	180	D-02-008_1-11
D-02-009	Looking upstream from bottom of reach	270	D-02-009_1-12
D-02-009	Looking downstream from bottom of reach	90	D-02-009_1-13
D-02-009	Looking at bank slump on north side of channel	0	D-02-009_1-14
D-02-009	Looking north at gradient control structure	0	D-02-009_1-15
D-02-010	Looking downstream	110	D-02-010_1-18
D-02-010	Looking upstream	290	D-02-010_1-19
D-02-011	Looking downstream	0	D-02-011_1-16
D-02-011	Looking upstream	135	D-02-011_1-17
D-02-012	Looking downstream	270	D-02-012_1-20
D-02-012	Looking upstream	90	D-02-012_1-21
D-02-013	Looking downstream from bottom of reach	0	D-02-013_1-22
D-02-013	Looking upstream through reach	180	D-02-013_1-23
D-02-014	Looking upstream through reach	135	D-02-014_1-24
D-02-014	Looking upstream from below weir	135	D-02-014_1-25
D-02-014	Looking downstream from bridge	305	D-02-014_1-26
D-02-015	Looking upstream	100	D-02-015_1-27
D-02-015	Looking downstream	300	D-02-015_1-28
D-02-016	Looking upstream from crossing	0	D-02-016_1-29
D-02-016	Looking downstream from crossing	180	D-02-016_1-30
D-02-017	Looking at perched drain at confluence of Roseau River at PTH 59	0	D-02-017_1-31
D-02-018	Looking upstream from bridge	90	D-02-018_1-32
D-02-018	Looking downstream from bridge	270	D-02-018_1-33

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-02-019	Looking downstream from bridge	0	D-02-019_1-34
D-02-019	Looking upstream from below bridge	180	D-02-019_1-35
D-02-019	Looking downstream from 50 m below bridge	0	D-02-019_1-36
D-02-020	Looking upstream	90	D-02-020_2-01
D-02-020	Looking downstream	270	D-02-020_2-02
D-02-021	Looking upstream	90	D-02-021_2-03
D-02-021	Looking downstream	270	D-02-021_2-04
D-02-022	Photo of kick sampling the riffle	0	D-02-022_2-05
D-02-022	Photo of kick sampling the riffle	0	D-02-022_2-06
D-02-025	Looking downstream from bridge	315	D-02-025_2-07
D-02-025	Looking upstream from bridge	135	D-02-025_2-08
D-02-026	Photo of kick sampling below culverts	0	D-02-026_2-09
D-02-026	Photo of kick sampling below culverts	0	D-02-026_2-10
D-02-026	Photo of picking through sample	0	D-02-026_2-11
D-02-026	Photo of picking through sample	0	D-02-026_2-12
D-02-026	Looking upstream through reach	135	D-02-026_2-13
D-02-026	Looking downstream from crossing	0	D-02-026_2-14
D-02-027	Looking upstream from crossing	270	D-02-027_2-15
D-02-027	Looking downstream from crossing	135	D-02-027_2-16
D-02-028	Looking upstream from road	270	D-02-028_2-17
D-02-028	Looking downstream from road	90	D-02-028_2-18
D-02-029	Looking downstream	180	D-02-029_2-19
D-02-029	Looking upstream	10	D-02-029_2-20
D-02-030	Looking upstream	280	D-02-030_2-21
D-02-030	Looking downstream	100	D-02-030_2-22
D-02-031	Looking upstream from bottom of reach	270	D-02-031_2-23
D-02-031	Looking downstream from top of reach	90	D-02-031_2-24
D-02-032	Looking upstream	130	D-02-032_2-25
D-02-032	Looking downstream	320	D-02-032_2-26
D-02-033	Looking upstream through riffle at ford crossing	300	D-02-033_2-27
D-02-033	Looking downstream through riffle at ford crossing	120	D-02-033_2-28
D-02-033	Looking downstream through riffle at ford crossing	120	D-02-033_2-29
D-02-034	Looking upstream	180	D-02-034_2-30

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-02-034	Looking downstream	90	D-02-034_2-31
D-02-035	Looking upstream from crossing	200	D-02-035_2-32
D-02-035	Looking downstream from crossing	20	D-02-035_2-33
D-02-036	Looking upstream from middle of reach	140	D-02-036_2-34
D-02-036	Looking downstream from middle of reach	315	D-02-036_2-35
D-02-038	Looking downstream through reach at minor cattle impacts	180	D-02-038_2-36
D-02-038	Looking downstream through reach at minor cattle impacts	180	D-02-038_2-37
D-02-039	Looking downstream	90	D-02-039_3-01
D-02-039	Looking upstream	270	D-02-039_3-02
D-02-039	Looking downstream	10	D-02-039_3-03
D-02-039	Looking upstream	190	D-02-039_3-04
D-02-040	Looking upstream at bank stabilization	270	D-02-040_3-05
D-02-040	Looking at site of last year's bank stability	270	D-02-040_3-06
D-02-040	Looking at site of last year's bank stability	270	D-02-040_3-07
D-02-040	Looking downstream from bridge at bank stabilization	90	D-02-040_3-08
D-02-043	Looking upstream from middle of reach	270	D-02-043_3-09
D-02-043	Looking downstream from middle of reach	0	D-02-043_3-10
D-02-044	Looking upstream from bottom of reach	180	D-02-044_3-11
D-02-044	Looking upstream from bridge	180	D-02-044_3-12
D-02-044	Looking downstream from bridge	0	D-02-044_3-13
D-02-045	Looking at gradient control structure	90	D-02-045_3-14
D-02-045	Looking upstream from top of reach	270	D-02-045_3-15
D-02-045	Looking upstream from bottom of reach	270	D-02-045_3-16
D-02-047	Looking upstream from ford crossing	270	D-02-047_3-17
D-02-047	Looking downstream from ford crossing	90	D-02-047_3-18
D-02-048	Looking upstream from crossing	200	D-02-048_3-19
D-02-048	Looking downstream from crossing	20	D-02-048_3-20
D-02-051	Looking upstream	180	D-02-051_3-21
D-02-051	Looking downstream	0	D-02-051_3-22
D-02-052	Looking downstream at shale cleanout	350	D-02-052_3-23
D-02-052	Looking upstream at shale cleanout	90	D-02-052_3-24
D-02-053	Looking upstream	200	D-02-053_4-01
D-02-053	Looking downstream	40	D-02-053_4-02

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-055	Looking upstream	270	D-02-055_4-03
D-02-055	Looking downstream	90	D-02-055_4-04
D-02-056	Looking upstream from bridge	270	D-02-056_4-05
D-02-056	Looking downstream from bridge	90	D-02-056_4-06
D-02-057	Looking at cattle impact upstream	270	D-02-057_4-07
D-02-057	Looking downstream	90	D-02-057_4-08
D-02-058	Looking at perched culverts upstream	270	D-02-058_4-09
D-02-060	Looking upstream from crossing	270	D-02-060_4-10
D-02-060	Looking upstream at perched culverts	100	D-02-060_4-11
D-02-060	Looking downstream from crossing	90	D-02-060_4-12
D-02-061	Looking upstream	270	D-02-061_4-13
D-02-061	Looking downstream	90	D-02-061_4-14
D-02-062	Looking upstream	270	D-02-062_4-15
D-02-062	Photo (pan) over riffle upstream	270	D-02-062_4-16
D-02-062	Looking at dam upstream of gradient control structure	270	D-02-062_4-17
D-02-063	Photo of Assiniboine River (perched culverts)	180	D-02-063_4-18
D-02-063	Photo of Assiniboine River (perched culverts)	180	D-02-063_4-19
D-02-064	Looking downstream	90	D-02-064_4-20
D-02-064	Looking upstream	270	D-02-064_4-21
D-02-065	Looking upstream from bridge	0	D-02-065_4-22
D-02-065	Looking downstream from bridge	180	D-02-065_4-23
D-02-067	Looking upstream from bridge	180	D-02-067_4-24
D-02-067	Looking downstream from bridge	60	D-02-067_4-25
D-02-068	Looking upstream from middle of reach	345	D-02-068_5-01
D-02-068	Looking downstream from middle of reach	135	D-02-068_5-02
D-02-069	Looking upstream from bottom of reach	350	D-02-069_5-03
D-02-069	Looking downstream from bottom of reach	200	D-02-069_5-04
D-02-070	Photo of checking larval drift trap	0	D-02-070_5-05
D-02-070	Photo of checking larval drift trap	0	D-02-070_5-06
D-02-071	Looking downstream from bridge	90	D-02-071_5-07
D-02-071	Looking upstream from bridge	270	D-02-071_5-08
D-02-074	Looking upstream from bridge	290	D-02-074_5-09
D-02-074	Looking downstream from bridge	100	D-02-074_5-10

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-02-075	Looking downstream from ford crossing	135	D-02-075_5-11
D-02-075	Looking upstream at ford crossing	315	D-02-075_5-12
D-02-075	Looking upstream from ford crossing	315	D-02-075_5-13
D-02-077	Looking upstream	0	D-02-077_5-14
D-02-077	Looking downstream	180	D-02-077_5-15
D-02-077	Looking upstream at perched culverts	0	D-02-077_5-16
D-02-078	Looking upstream from bridge	315	D-02-078_5-17
D-02-078	Looking downstream from bridge	135	D-02-078_5-18
D-02-079	Looking upstream from bridge	300	D-02-079_5-19
D-02-079	Looking downstream from bridge	120	D-02-079_5-20
D-02-080	Looking upstream from crossing	310	D-02-080_5-21
D-02-080	Looking downstream from crossing	135	D-02-080_5-22
D-02-081	Looking upstream from PTH 8	270	D-02-081_5-23
D-02-081	Looking downstream from PTH 8	90	D-02-081_5-24
D-02-082	Looking upstream	215	D-02-082_6-01
D-02-082	Looking downstream	50	D-02-082_6-02
D-02-082	Looking downstream	50	D-02-082_6-03
D-02-083	Looking upstream from bridge	270	D-02-083_6-04
D-02-083	Looking downstream from bridge	90	D-02-083_6-05
D-02-084	Looking upstream from top of reach	30	D-02-084_6-06
D-02-084	Looking downstream from top of reach	270	D-02-084_6-07
D-02-085	Looking upstream from ford crossing	300	D-02-085_6-08
D-02-085	Looking downstream from ford crossing	140	D-02-085_6-09
D-02-085	Looking upstream at culverts (ford crossing)	300	D-02-085_6-10
D-02-086	Looking at Swan Lake dam	80	D-02-086_6-11
D-02-086	Looking at Swan Lake dam	80	D-02-086_6-12
D-02-086	Looking at Swan Lake dam	80	D-02-086_6-13
D-02-087	Looking upstream	90	D-02-087_6-14
D-02-087	Looking downstream	300	D-02-087_6-15
D-02-088	Looking upstream from crossing	120	D-02-088_6-16
D-02-088	Looking downstream from crossing	240	D-02-088_6-17
D-02-089	Looking upstream from top of reach	90	D-02-089_6-18
D-02-089	Looking downstream from top of reach	270	D-02-089_6-19

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-090	Looking at Mud Lake Drain choked with vegetation	270	D-02-090_6-20
D-02-091	Looking upstream from crossing	100	D-02-091_6-21
D-02-091	Looking downstream from crossing	290	D-02-091_6-22
D-02-091	Looking upstream at cow pasture 75 m from crossing	100	D-02-091_6-23
D-02-092	Looking upstream from bottom of reach	120	D-02-092_6-24
D-02-092	Looking downstream from bridge	280	D-02-092_6-25
D-02-093	Looking downstream from top of reach	90	D-02-093_7-01
D-02-093	Looking upstream from bridge	270	D-02-093_7-02
D-02-094	Looking upstream from bridge	280	D-02-094_7-03
D-02-094	Looking downstream from bridge	90	D-02-094_7-04
D-02-095	Looking upstream from bridge	280	D-02-095_7-05
D-02-095	Looking downstream from bridge	100	D-02-095_7-06
D-02-096	Looking upstream from crossing	270	D-02-096_7-07
D-02-096	Looking downstream from crossing	90	D-02-096_7-08
D-02-096	Looking downstream from gradient control structure	90	D-02-096_7-09
D-02-096	Looking upstream at gradient control structure	270	D-02-096_7-10
D-02-097	Looking upstream from bottom of reach	270	D-02-097_7-11
D-02-097	Looking downstream from crossing	90	D-02-097_7-12
D-02-097	Looking upstream from crossing	270	D-02-097_7-13
D-02-098	Looking upstream from crossing	90	D-02-098_7-14
D-02-098	Looking downstream from crossing	270	D-02-098_7-15
D-02-099	Looking upstream at cement v-notch weir	90	D-02-099_7-16
D-02-099	Looking upstream from weir	90	D-02-099_7-17
D-02-099	Looking downstream from weir	270	D-02-099_7-18
D-02-100	Looking upstream from top of reach	90	D-02-100_7-19
D-02-100	Looking downstream from top of reach	270	D-02-100_7-20
D-02-101	Looking upstream from crossing	90	D-02-101_7-21
D-02-101	Looking downstream from crossing	270	D-02-101_7-22
D-02-102	Looking upstream from crossing	90	D-02-102_7-23
D-02-102	Looking downstream from crossing	270	D-02-102_7-24
D-02-103	Looking upstream	180	D-02-103_8-01
D-02-103	Looking downstream	270	D-02-103_8-02
D-02-103	Looking at clear inflow from culverts	90	D-02-103_8-03

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-104	Looking upstream from bridge	180	D-02-104_8-04
D-02-104	Looking downstream from bridge	0	D-02-104_8-05
D-02-105	Looking upstream at dam	250	D-02-105_8-06
D-02-105	Looking downstream from dam	90	D-02-105_8-07
D-02-106	Looking upstream from crossing	0	D-02-106_8-08
D-02-106	Looking downstream from crossing	180	D-02-106_8-09
D-02-106	Looking at windblown straw & topsoil infilling	0	D-02-106_8-10
D-02-107	Looking upstream from crossing	270	D-02-107_8-11
D-02-107	Looking downstream from crossing	90	D-02-107_8-12
D-02-107	Looking at perched culverts	270	D-02-107_8-13
D-02-108	Looking downstream from bridge	250	D-02-108_8-14
D-02-108	Looking upstream from bridge	100	D-02-108_8-15
D-02-109	Looking upstream	270	D-02-109_8-21
D-02-109	Looking downstream	90	D-02-109_8-22
D-02-110	Looking upstream from crossing	350	D-02-110_8-23
D-02-110	Looking downstream from crossing	170	D-02-110_8-24
D-02-111	Looking upstream from ford crossing	10	D-02-111_9-01
D-02-111	Looking downstream from ford crossing	190	D-02-111_9-02
D-02-111	Looking across ford, crossing looking east	90	D-02-111_9-03
D-02-112	Looking upstream from crossing	90	D-02-112_9-04
D-02-112	Looking downstream from crossing	270	D-02-112_9-05
D-02-113	Looking upstream	90	D-02-113_9-06
D-02-113	Looking downstream	270	D-02-113_9-07
D-02-113	Looking at lady slippers growing on banks of Boundary Drain	90	D-02-113_9-08
D-02-114	Looking upstream	90	D-02-114_9-09
D-02-114	Looking downstream	270	D-02-114_9-10
D-02-115	Looking upstream from crossing	30	D-02-115_9-11
D-02-115	Looking downstream from crossing	150	D-02-115_9-12
D-02-116	Looking upstream from bridge	30	D-02-116_9-13
D-02-116	Looking downstream from bridge	180	D-02-116_9-14
D-02-117	Looking upstream at cow pasture	40	D-02-117_9-15
D-02-117	Looking downstream	220	D-02-117_9-16
D-02-118	Looking upstream from bridge	20	D-02-118_9-17

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-118	Looking downstream from bridge	330	D-02-118_9-18
D-02-119	Looking upstream from crossing	90	D-02-119_9-19
D-02-119	Looking upstream from crossing	90	D-02-119_9-20
D-02-119	Looking downstream from crossing	270	D-02-119_9-21
D-02-120	Looking upstream	345	D-02-120_9-22
D-02-120	Looking downstream	225	D-02-120_9-23
D-02-121	Looking upstream from crossing	90	D-02-121_10-01
D-02-121	Looking downstream from crossing	270	D-02-121_10-02
D-02-122	Looking downstream from tributary crossing	300	D-02-122_10-03
D-02-122	Looking upstream at culverts	130	D-02-122_10-04
D-02-122	Looking upstream from crossing	130	D-02-122_10-05
D-02-123	Looking upstream from crossing	90	D-02-123_10-06
D-02-123	Looking downstream from crossing	270	D-02-123_10-07
D-02-124	Looking downstream at cow pasture	270	D-02-124_10-08
D-02-124	Looking upstream	90	D-02-124_10-09
D-02-125	Looking upstream from bridge	120	D-02-125_10-10
D-02-125	Looking downstream from bridge	290	D-02-125_10-11
D-02-126	Looking upstream from crossing	150	D-02-126_10-12
D-02-126	Looking downstream from crossing	320	D-02-126_10-13
D-02-127	Looking upstream from crossing	110	D-02-127_10-14
D-02-127	Looking downstream from crossing	280	D-02-127_10-15
D-02-127	Looking downstream from crossing	280	D-02-127_10-16
D-02-128	Looking upstream	105	D-02-128_10-17
D-02-128	Looking downstream	320	D-02-128_10-18
D-02-129	Looking downstream from bridge	270	D-02-129_10-19
D-02-129	Looking upstream from bridge	45	D-02-129_10-20
D-02-130	Looking upstream from crossing	270	D-02-130_10-21
D-02-130	Looking downstream from crossing	90	D-02-130_10-22
D-02-131	Looking downstream from crossing	90	D-02-131_10-23
D-02-131	Looking upstream to the south	180	D-02-131_10-24
D-02-132	Looking upstream from crossing	180	D-02-132_11-01
D-02-132	Looking downstream from crossing	0	D-02-132_11-02
D-02-133	Looking downstream from crossing	320	D-02-133_11-03

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-133	Looking upstream from crossing	160	D-02-133_11-04
D-02-134	Looking upstream from crossing	330	D-02-134_11-05
D-02-134	Looking downstream from crossing	90	D-02-134_11-06
D-02-135	Looking upstream from crossing	230	D-02-135_11-07
D-02-135	Looking downstream from crossing	50	D-02-135_11-08
D-02-136	Looking downstream from PTH 17	45	D-02-136_11-09
D-02-136	Looking upstream from PTH 17	210	D-02-136_11-10
D-02-137	Looking upstream from under bridge	270	D-02-137_11-11
D-02-137	Looking downstream from under bridge	90	D-02-137_11-12
D-02-137	Looking downstream from bridge	70	D-02-137_11-13
D-02-137	Looking upstream from bridge	90	D-02-137_11-14
D-02-138	Looking downstream from bridge	90	D-02-138_11-15
D-02-138	Looking upstream from bridge	270	D-02-138_11-16
D-02-139	Looking upstream from bridge	270	D-02-139_11-17
D-02-139	Looking downstream from bridge	90	D-02-139_11-18
D-02-140	Looking downstream (east) at WSC station and cableway	100	D-02-140_11-19
D-02-141	Looking at culvert replacement on Zoria Drain	90	D-02-141_11-20
D-02-141	Looking at culvert replacement on Zoria Drain	330	D-02-141_11-21
D-02-141	Looking at culvert replacement on Zoria Drain	330	D-02-141_11-22
D-02-141	Looking at culvert replacement on Zoria Drain	330	D-02-141_11-23
D-02-141	Looking at culvert replacement on Zoria Drain	330	D-02-141_11-24
D-02-142	Looking upstream from bridge	270	D-02-142_12-01
D-02-142	Looking downstream from bridge	90	D-02-142_12-02
D-02-143	Looking at WSC station	210	D-02-143_12-03
D-02-143	Looking upstream past WSC station	270	D-02-143_12-04
D-02-144	Looking upstream	90	D-02-144_12-05
D-02-144	Looking downstream	290	D-02-144_12-06
D-02-145	Looking upstream	180	D-02-145_12-07
D-02-145	Looking downstream	0	D-02-145_12-08
D-02-146	Looking upstream from crossing	180	D-02-146_12-09
D-02-146	Looking downstream from crossing	0	D-02-146_12-10
D-02-147	Looking upstream from crossing	140	D-02-147_12-11
D-02-147	Looking downstream from crossing	320	D-02-147_12-12

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-148	Looking downstream at rock/boulder infilling and bank slumping	20	D-02-148_12-13
D-02-149	Looking upstream from crossing	120	D-02-149_12-14
D-02-149	Looking downstream from crossing	320	D-02-149_12-15
D-02-150	Looking downstream from bridge	90	D-02-150_12-19
D-02-150	Looking upstream from bridge	270	D-02-150_12-20
D-02-151	Looking upstream	230	D-02-151_12-21
D-02-151	Looking downstream	100	D-02-151_12-22
D-02-152	Looking upstream	270	D-02-152_12-23
D-02-152	Looking downstream	90	D-02-152_12-24
D-02-152	Looking upstream	270	D-02-152_13-01
D-02-152	Looking downstream	90	D-02-152_13-02
D-02-153	Looking upstream	270	D-02-153_13-03
D-02-153	Looking downstream	90	D-02-153_13-04
D-02-154	Looking upstream from crossing	90	D-02-154_13-05
D-02-154	Looking downstream from crossing	270	D-02-154_13-06
D-02-155	Looking upstream from crossing	90	D-02-155_13-07
D-02-155	Looking downstream from crossing	270	D-02-155_13-08
D-02-156	Looking upstream	140	D-02-156_13-09
D-02-156	Looking downstream	270	D-02-156_13-10
D-02-157	Looking downstream	180	D-02-157_13-11
D-02-157	Looking upstream	0	D-02-157_13-12
D-02-157	Looking east at armour on culverts	90	D-02-157_13-13
D-02-158	Looking downstream	315	D-02-158_13-14
D-02-158	Looking upstream	120	D-02-158_13-15
D-02-159	Looking upstream	180	D-02-159_13-16
D-02-159	Looking downstream	35	D-02-159_13-17
D-02-160	Looking upstream at constructed riffles	120	D-02-160_13-18
D-02-160	Looking downstream at constructed riffles	230	D-02-160_13-19
D-02-161	Looking downstream from crossing	40	D-02-161_13-20
D-02-161	Looking upstream from crossing	230	D-02-161_13-21
D-02-162	Looking upstream	270	D-02-162_13-22
D-02-162	Looking downstream	90	D-02-162_13-23
D-02-162	Looking upstream at culvert	270	D-02-162_13-24

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-162	Looking upstream at culvert	230	D-02-162_14-01
D-02-163	Looking upstream from bridge	300	D-02-163_14-02
D-02-163	Looking downstream from bridge	80	D-02-163_14-03
D-02-164	Looking downstream from crossing	160	D-02-164_14-04
D-02-164	Looking upstream from crossing	315	D-02-164_14-05
D-02-165	Looking upstream	90	D-02-165_14-06
D-02-165	Looking downstream	240	D-02-165_14-07
D-02-166	Looking upstream from crossing	315	D-02-166_14-08
D-02-166	Looking downstream from crossing	180	D-02-166_14-09
D-02-167	Looking downstream from road crossing	135	D-02-167_14-10
D-02-167	Looking at perched culvert	270	D-02-167_14-11
D-02-167	Looking upstream from crossing	315	D-02-167_14-12
D-02-168	Looking upstream	290	D-02-168_14-13
D-02-168	Looking downstream	120	D-02-168_14-14
D-02-169	Looking upstream from road	335	D-02-169_14-15
D-02-169	Looking downstream from road	170	D-02-169_14-16
D-02-170	Looking upstream from crossing	270	D-02-170_14-17
D-02-170	Looking downstream from crossing	90	D-02-170_14-18
D-02-171	Looking upstream	270	D-02-171_14-19
D-02-171	Looking downstream	90	D-02-171_14-20
D-02-171	Looking downstream	90	D-02-171_14-21
D-02-172	Looking upstream from road	275	D-02-172_14-22
D-02-172	Looking downstream from road	100	D-02-172_14-23
D-02-172	Photo of perched culvert	275	D-02-172_14-24
D-02-173	Looking upstream	270	D-02-173_15-01
D-02-173	Looking upstream	270	D-02-173_15-02
D-02-173	Looking downstream	75	D-02-173_15-03
D-02-174	Looking upstream from PR 352	270	D-02-174_15-04
D-02-174	Looking downstream from PR 352	90	D-02-174_15-05
D-02-175	Looking downstream from PR 352	45	D-02-175_15-07
D-02-175	Looking downstream at cattle impacts	90	D-02-175_15-08
D-02-175	Looking upstream from PR 352	270	D-02-175_15-09
D-02-176	Looking upstream (at 1st order tributary)	180	D-02-176_15-10

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-176	Looking upstream (mainstream)	270	D-02-176_15-11
D-02-176	Looking downstream from PR 352	90	D-02-176_15-12
D-02-177	Looking upstream from road	270	D-02-177_15-13
D-02-177	Looking downstream from road	90	D-02-177_15-14
D-02-178	Looking downstream from bridge	315	D-02-178_15-15
D-02-178	Looking upstream from bridge	250	D-02-178_15-16
D-02-179	Looking downstream from mid-reach	220	D-02-179_15-17
D-02-179	Looking upstream from mid-reach	285	D-02-179_15-18
D-02-179	Looking upstream at culverts and low head dam	350	D-02-179_15-19
D-02-180	Looking upstream from crossing	270	D-02-180_15-20
D-02-180	Looking downstream from crossing	90	D-02-180_15-21
D-02-181	Photo of Dave and Ashley fishing	N/A	D-02-181_15-22
D-02-181	Looking upstream from bridge	270	D-02-181_15-23
D-02-181	Looking downstream from bridge	90	D-02-181_15-24
D-02-182	Looking downstream from bridge	50	D-02-182_16-01
D-02-182	Looking upstream from bridge	225	D-02-182_16-02
D-02-183	Looking upstream from PTH 10 crossing	270	D-02-183_16-03
D-02-183	Looking downstream from PTH 10 crossing	90	D-02-183_16-04
D-02-184	Looking upstream from mid reach	180	D-02-184_16-05
D-02-184	Looking downstream from mid reach	0	D-02-184_16-06
D-02-185	Looking upstream from crossing	310	D-02-185_16-07
D-02-185	Looking upstream from crossing	310	D-02-185_16-08
D-02-185	Looking downstream from crossing	130	D-02-185_16-09
D-02-186	Looking downstream from PR 366	70	D-02-186_16-10
D-02-186	Looking upstream from PR 366	230	D-02-186_16-11
D-02-187	Looking upstream from crossing	180	D-02-187_16-12
D-02-188	Looking upstream from crossing	275	D-02-188_16-13
D-02-188	Looking downstream from crossing	90	D-02-188_16-14
D-02-189	Looking upstream from crossing	270	D-02-189_16-15
D-02-189	Looking downstream from crossing	90	D-02-189_16-16
D-02-190	Looking upstream from crossing	300	D-02-190_16-17
D-02-190	Looking downstream from crossing	140	D-02-190_16-18
D-02-191	Photo of beach seining pool	80	D-02-191_17-01

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-02-191	Looking upstream from mid-reach	280	D-02-191_17-02
D-02-191	Looking downstream from mid-reach	20	D-02-191_17-03
D-02-192	Looking upstream from crossing	180	D-02-192_17-04
D-02-192	Looking downstream from crossing	0	D-02-192_17-05
D-02-193	Looking upstream	315	D-02-193_17-06
D-02-193	Looking downstream	180	D-02-193_17-07
D-02-195	Looking upstream from crossing	180	D-02-195_17-08
D-02-195	Looking downstream from crossing	0	D-02-195_17-09
D-02-196	Looking upstream from mid-reach	225	D-02-196_17-10
D-02-196	Looking downstream from mid-reach	50	D-02-196_17-11
D-02-197	Looking upstream from bridge	170	D-02-197_17-12
D-02-197	Looking downstream from bridge	315	D-02-197_17-13
D-02-197	Looking at recent bank stabilization work	N/A	D-02-197_17-14
D-02-197	Looking at recent bank stabilization work	N/A	D-02-197_17-15
D-02-197	Looking at recent bank stabilization work	N/A	D-02-197_17-16
D-02-197	Looking at recent bank stabilization work	N/A	D-02-197_17-17
D-02-198	Looking upstream from crossing	180	D-02-198_17-18
D-02-198	Looking downstream from crossing	0	D-02-198_17-19
D-02-198	Looking downstream	0	D-02-198_17-20
D-02-198	Looking upstream at culverts	180	D-02-198_17-21
D-02-198	Looking at substrate	N/A	D-02-198_17-22
D-02-201	Looking downstream from bridge	90	D-02-201_19-01
D-02-201	Looking upstream from bridge	270	D-02-201_19-02
D-02-201	Looking south across dry portion of channel	180	D-02-201_19-03
B-03-001	Looking upstream from PTH 11	280	B-03-001_P5210001
B-03-001	Looking downstream from PTH 11	120	B-03-001_P5210002
B-03-001	Looking upstream at concrete overpass	280	B-03-001_P5210003
B-03-002	Looking upstream from PTH 10 crossing	270	B-03-002_P5230001
B-03-002	Looking downstream from PTH 10 crossing	90	B-03-002_P5230002
B-03-003	Looking upstream from PR 349 crossing	180	B-03-003_P5230003
B-03-003	Looking downstream from PR 349 crossing	360	B-03-003_P5230004
B-03-004	Looking upstream from road	190	B-03-004_P5230005
B-03-004	Looking downstream from road	320	B-03-004_P5230006

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-004	Looking upstream at culvert	180	B-03-004_P5230007
B-03-005	Looking upstream from road	310	B-03-005_P5230008
B-03-005	Looking downstream from road	130	B-03-005_P5230009
B-03-005	Looking upstream at five large culverts from 20m east of road	N/A	B-03-005_P5230010
B-03-006	Looking upstream from PTH 453 Bridge	260	B-03-006_P5230011
B-03-006	Looking downstream from PTH 453 Bridge	80	B-03-006_P5230012
B-03-007	Looking upstream from road	270	B-03-007_P5260001
B-03-007	Looking downstream from road	110	B-03-007_P5260002
B-03-007	Looking upstream at ford crossing from 5m downstream from road	270	B-03-007_P5260003
B-03-008	Looking upstream from PTH 252	280	B-03-008_P5260004
B-03-008	Looking downstream from PTH 252	110	B-03-008_P5260005
B-03-009	Looking upstream from PTH 252	270	B-03-009_P5260006
B-03-009	Looking downstream from PTH 252	90	B-03-009_P5260007
B-03-010	Looking upstream from road	270	B-03-010_P5260008
B-03-010	Looking downstream from road	90	B-03-010_P5260009
B-03-011	Looking upstream from road	270	B-03-011_P5260010
B-03-011	Looking downstream from road	90	B-03-011_P5260011
B-03-011	Canada Goose Refuge sign	N/A	B-03-011_P5260012
B-03-012	Looking upstream from road	240	B-03-012_P5260013
B-03-012	Looking downstream from road	340	B-03-012_P5260014
B-03-012	Looking upstream at 2 perched 0.3m diameter culverts	240	B-03-012_P5260015
B-03-012	Looking downstream at 2 perched 0.3m diameter culverts	340	B-03-012_P5260016
B-03-013	Looking upstream from PTH 83 crossing	270	B-03-013_P5270001
B-03-013	Looking downstream from PTH 83 crossing	90	B-03-013_P5270002
B-03-014	Looking downstream from road	150	B-03-014_P5270003
B-03-014	Looking upstream from road	280	B-03-014_P5270004
B-03-014	Looking at culvert at upstream end	270	B-03-014_P5270005
B-03-015	Looking upstream from road	270	B-03-015_P5270006
B-03-015	Looking downstream from road	90	B-03-015_P5270007
B-03-016	Looking upstream from 20m east of low level crossing	290	B-03-016_P5270008
B-03-016	Looking downstream from 20m east of low level crossing	200	B-03-016_P5270009
B-03-017	Looking upstream from dike/control structure	360	B-03-017_P5280001
B-03-017	Looking downstream from dike/control structure	180	B-03-017_P5280002

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-03-017	Looking upstream at culvert catchments	300	B-03-017_P5280003
B-03-017	Looking upstream at small reservoir from 30m east of control structure	360	B-03-017_P5280004
B-03-017	Looking upstream at perched culverts from 20m downstream	340	B-03-017_P5280005
B-03-018	Looking upstream from road	300	B-03-018_P5280006
B-03-018	Looking downstream from road	150	B-03-018_P5280007
B-03-018	Looking across flooded crossing from east side looking west	270	B-03-018_P5280008
B-03-019	Looking upstream from road	270	B-03-019_P5280009
B-03-019	Looking downstream from road	90	B-03-019_P5280010
B-03-019	Looking upstream at 290 cm diameter culvert	300	B-03-019_P5280011
B-03-020	Looking upstream from road	10	B-03-020_P5290001
B-03-020	Looking downstream from road	160	B-03-020_P5290002
B-03-021	Looking upstream from bridge	180	B-03-021_P5290003
B-03-021	Looking downstream from bridge	360	B-03-021_P5290004
B-03-022	Looking upstream from bridge	320	B-03-022_P5290005
B-03-022	Looking downstream from bridge	100	B-03-022_P5290006
B-03-023	Looking upstream from road	270	B-03-023_P5290007
B-03-023	Looking downstream from road	90	B-03-023_P5290008
B-03-023	Looking upstream at culvert perched 0.4m from 15m east of road	270	B-03-023_P5290009
B-03-024	Looking upstream from road	270	B-03-024_P5290010
B-03-024	Looking downstream from road	90	B-03-024_P5290011
B-03-025	Looking upstream from south culvert in west ditch	350	B-03-025_P5290012
B-03-025	Looking downstream from south culvert	60	B-03-025_P5290013
B-03-025	Looking upstream from north culvert	290	B-03-025_P5290014
B-03-025	Looking downstream from north culvert	110	B-03-025_P5290015
B-03-025	Looking upstream at north culvert perched 1.1m	N/A	B-03-025_P5290016
B-03-025	Looking upstream at south culvert perched 0.6m	N/A	B-03-025_P5290017
B-03-026	Looking upstream from road	340	B-03-026_P5290018
B-03-026	Looking downstream from road	70	B-03-026_P5290019
B-03-026	Looking upstream at low level crossing/riffle	360	B-03-026_P5290020
B-03-027	Looking upstream from road	350	B-03-027_P5300001
B-03-027	Looking downstream from road	180	B-03-027_P5300002
B-03-027	Looking upstream at 2 perched culverts	300	B-03-027_P5300003
B-03-028	Looking upstream from road	350	B-03-028_P5300004

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-03-028	Looking upstream from road	110	B-03-028_P5300005
B-03-028	Looking upstream at culvert from 10m east of road	N/A	B-03-028_P5300006
B-03-028	Looking downstream at culvert from 10m west of road	N/A	B-03-028_P5300007
B-03-029	Looking upstream from road	275	B-03-029_P5300008
B-03-029	Looking downstream from road	120	B-03-029_P5300009
B-03-030	Looking upstream from road	290	B-03-030_P5300010
B-03-030	Looking downstream from road	90	B-03-030_P5300011
B-03-031	Looking upstream from road	360	B-03-031_P5300012
B-03-031	Looking downstream from road	180	B-03-031_P5300013
B-03-031	Looking upstream at 1 culvert from 10m south of road	340	B-03-031_P5300014
B-03-032	Looking upstream from road	40	B-03-032_P6020001
B-03-032	Looking downstream from road	180	B-03-032_P6020002
B-03-032	Looking upstream at 3 culverts from 20m south of road	40	B-03-032_P6020003
B-03-033	Looking upstream from road	50	B-03-033_P6020004
B-03-033	Looking downstream from road	330	B-03-033_P6020005
B-03-034	Looking upstream from road	30	B-03-034_P6020006
B-03-034	Looking downstream from road	190	B-03-034_P6020007
B-03-034	Looking downstream at scouring from west metal pipe culvert	190	B-03-034_P6020008
B-03-034		N/A	B-03-034_P6020009
B-03-034	Looking upstream at east perched culvert	N/A	B-03-034_P6020010
B-03-035	Looking upstream from road	220	B-03-035_P6020011
B-03-035	Looking downstream from road	30	B-03-035_P6020012
B-03-036	Looking upstream form road	120	B-03-036_P6020013
B-03-036	Looking downstream from road	290	B-03-036_P6020014
B-03-037	Looking upstream form road	360	B-03-037_P6020015
B-03-037	Looking downstream from road	90	B-03-037_P6020016
B-03-038	Looking upstream form road	90	B-03-038_P6020017
B-03-038	Looking downstream from road	270	B-03-038_P6020018
B-03-038	Looking upstream at control structure from road	140	B-03-038_P6020019
B-03-038	Looking at beaver deterrent	90	B-03-038_P6020020
B-03-039	Looking upstream from road	360	B-03-039_P6030001
B-03-039	Looking downstream from road	80	B-03-039_P6030002
B-03-040	Looking upstream from PR 355	360	B-03-040_P6030003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-040	Looking downstream from PR 355	195	B-03-040_P6030004
B-03-040	Looking upstream at 2- 2.9m diameter culverts	20	B-03-040_P6030005
B-03-041	Looking upstream from PR 262	130	B-03-041_P6030006
B-03-041	Looking upstream from PR 262	260	B-03-041_P6030007
B-03-041	Looking upstream at cemented culverts from 30m west of PR 262	N/A	B-03-041_P6030008
B-03-042	Looking upstream from low grade crossing	270	B-03-042_P6030009
B-03-042	Looking downstream from low grade crossing	90	B-03-042_P6030010
B-03-043	Looking upstream from 30m south of trail	270	B-03-043_P6030011
B-03-043	Looking upstream from 30m south of trail	90	B-03-043_P6030012
B-03-044	Looking upstream from bridge	130	B-03-044_P6030013
B-03-044	Looking downstream from bridge	255	B-03-044_P6030014
B-03-045	Looking upstream from road	30	B-03-045_P6040001
B-03-045	Looking downstream from road	250	B-03-045_P6040002
B-03-045	Looking downstream at south gated culvert	N/A	B-03-045_P6040003
B-03-046	Looking upstream from road	270	B-03-046_P6040004
B-03-046	Looking downstream from road	90	B-03-046_P6040005
B-03-047	Looking upstream from road	310	B-03-047_P6040006
B-03-047	Looking downstream from road	180	B-03-047_P6040007
B-03-048	Looking upstream from west crossing	360	B-03-048_P6040008
B-03-048	Looking downstream from west crossing	90	B-03-048_P6040009
B-03-048	Looking at upstream end of crossing	90	B-03-048_P6040010
B-03-049	Looking upstream from crossing	360	B-03-049_P6040011
B-03-049	Looking at downstream of crossing	180	B-03-049_P6040012
B-03-049	Looking downstream from end of culverts	N/A	B-03-049_P6040013
B-03-050	Looking upstream from crossing	270	B-03-050_P6040014
B-03-050	Looking at downstream of crossing	180	B-03-050_P6040015
B-03-051	Looking upstream from crossing	200	B-03-051_P6040016
B-03-051	Looking at downstream of crossing	360	B-03-051_P6040017
B-03-052	Looking upstream from crossing	10	B-03-052_P6040018
B-03-052	Looking at downstream of crossing	270	B-03-052_P6040019
B-03-052	Photo of algae bloom	N/A	B-03-052_P6040020
B-03-052	Photo of pumping into water?	N/A	B-03-052_P6040021
B-03-053	Looking upstream from point east of PTH 250	280	B-03-053_P6050001

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-053	Downstream from point east of PTH 250	120	B-03-053_P6050002
B-03-054	Looking downstream from crossing	100	B-03-054_P6050003
B-03-054	Looking upstream from crossing	300	B-03-054_P6050004
B-03-055	Looking upstream from crossing	280	B-03-055_P6050005
B-03-055	Looking downstream from crossing	80	B-03-055_P6050006
B-03-055	Looking upstream at perched culvert	N/A	B-03-055_P6050007
B-03-056	Looking upstream from crossing	360	B-03-056_P6050008
B-03-056	Looking downstream from crossing	90	B-03-056_P6050009
B-03-057	Looking upstream from crossing	360	B-03-057_P6050010
B-03-057	Looking downstream from crossing	180	B-03-057_P6050011
B-03-057	Looking upstream through culvert at beaver dam	N/A	B-03-057_P6050012
B-03-058	Looking upstream from crossing	320	B-03-058_P6050013
B-03-058	Looking downstream from crossing	140	B-03-058_P6050014
B-03-059	Looking upstream from crossing	270	B-03-059_P6050015
B-03-059	Looking downstream from crossing	90	B-03-059_P6050016
B-03-060	Looking upstream from crossing	?	B-03-060_P6050017
B-03-060	Looking downstream from crossing	?	B-03-060_P6050018
B-03-061	Looking upstream from road	50	B-03-061_P6090001
B-03-061	Looking downstream from road	200	B-03-061_P6090002
B-03-061	Looking upstream at 2.9m diameter culvert perched 0.6m	70	B-03-061_P6090003
B-03-062	Looking upstream from 10m south of crossing	10	B-03-062_P6090004
B-03-062	Looking downstream from 20m north of crossing	210	B-03-062_P6090005
B-03-063	Looking upstream from crossing on PTH 24	170	B-03-063_P6090006
B-03-063	Looking upstream from crossing on PTH 24	350	B-03-063_P6090007
B-03-064	Looking upstream from washed out culvert	95	B-03-064_P6100001
B-03-064	Looking downstream from washed out culvert	260	B-03-064_P6100002
B-03-064	Looking at railway crossing	155	B-03-064_P6100003
B-03-064	Photo of Black Bullhead	N/A	B-03-064_P6100004
B-03-064	Photo of Black Bullhead	N/A	B-03-064_P6100005
B-03-064	Photo of Black Bullhead	N/A	B-03-064_P6100006
B-03-064	Photo of Creek Chub	N/A	B-03-064_P6100007
B-03-065	Looking upstream from crossing	50	B-03-065_P6100008
B-03-065	Looking downstream from crossing	220	B-03-065_P6100009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-065	Looking upstream at west 1.8m diameter culvert perched 0.10m	N/A	B-03-065_P6100010
B-03-066	Looking upstream from PTH 16 crossing	360	B-03-066_P6100011
B-03-066	Looking upstream from PTH 16 crossing	180	B-03-066_P6100012
B-03-067	Looking upstream from PR 355 crossing	330	B-03-067_P6100013
B-03-067	Looking downstream from PR 355 crossing	150	B-03-067_P6100014
B-03-068	Looking upstream from road	10	B-03-068_P6110001
B-03-068	Looking downstream from road	190	B-03-068_P6110002
B-03-069	Looking upstream from road	300	B-03-069_P6110003
B-03-069	Looking downstream from road	80	B-03-069_P6110004
B-03-070	Looking upstream from road	270	B-03-070_P6110005
B-03-070	Looking downstream from road	90	B-03-070_P6110006
B-03-070	Looking upstream at 0.85m diameter perched culvert	N/A	B-03-070_P6110007
B-03-071	Looking upstream from PR 264 crossing	360	B-03-071_P6110008
B-03-071	Looking downstream from PR 264 crossing	180	B-03-071_P6110009
B-03-072	Looking upstream from road	310	B-03-072_P6110010
B-03-072	Looking downstream from road	90	B-03-072_P6110011
B-03-073	Looking upstream from PTH 42 crossing	10	B-03-073_P6110012
B-03-073	Looking downstream from PTH 42 crossing	190	B-03-073_P6110013
B-03-074	Looking upstream from road	70	B-03-074_P6110014
B-03-074	Looking downstream from road	250	B-03-074_P6110015
B-03-075	Looking upstream from PTH 42 crossing	360	B-03-075_P6120001
B-03-075	Looking downstream from PTH 42 crossing	200	B-03-075_P6120002
B-03-076	Looking upstream from CN tracks	10	B-03-076_P6120003
B-03-076	Looking downstream from CN tracks	195	B-03-076_P6120004
B-03-076	Photo of White Sucker	N/A	B-03-076_P6120005
B-03-076	Photo of White Sucker	N/A	B-03-076_P6120006
B-03-076	Photo of Creek Chub	N/A	B-03-076_P6120007
B-03-076	Photo of Creek Chub	N/A	B-03-076_P6120008
B-03-077	Looking upstream from bridge	330	B-03-077_P6120009
B-03-077	Looking downstream from bridge	100	B-03-077_P6120010
B-03-078	Looking upstream from road	90	B-03-078_P6120011
B-03-078	Looking upstream from road	270	B-03-078_P6120012
B-03-079	Looking upstream from road	10	B-03-079_P6120013

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Site Number	Photo Description	Azimuth	File Name
B-03-079	Looking downstream from road	170	B-03-079_P6120014
B-03-080	Looking upstream from PR 256 crossing	340	B-03-080_P6120015
B-03-080	Looking downstream from PR 256 crossing	110	B-03-080_P6120016
B-03-080	Looking upstream at 4 culverts from 20 m south of road	340	B-03-080_P6120017
B-03-081	Looking upstream from PR 467 crossing	250	B-03-081_P6120018
B-03-081	Looking downstream from PR 467 crossing	10	B-03-081_P6120019
B-03-082	Looking upstream from PTH 83 crossing	200	B-03-082_P6120020
B-03-082	Looking downstream from PTH 83 crossing	20	B-03-082_P6120021
B-03-083	Looking upstream from control structure	280	B-03-083_P6160001
B-03-083	Looking downstream from control structure	80	B-03-083_P6160002
B-03-083	Looking upstream at control structure from 30m downstream	280	B-03-083_P6160003
B-03-084	Looking upstream from control structure	280	B-03-084_P6160004
B-03-084	Looking downstream from control structure	80	B-03-084_P6160005
B-03-084	Looking upstream at control structure from 30m downstream	280	B-03-084_P6160006
B-03-085	Looking upstream from control structure	280	B-03-085_P6170001
B-03-085	Looking downstream from control structure	80	B-03-085_P6170002
B-03-085	Looking upstream at control structure from 30m downstream	280	B-03-085_P6170003
B-03-086	Looking upstream from control structure	280	B-03-086_P6170004
B-03-086	Looking downstream from control structure	80	B-03-086_P6170005
B-03-086	Looking upstream at control structure from 30m downstream	280	B-03-086_P6170006
B-03-087	Looking upstream from crossing	270	B-03-087_P6170007
B-03-087	Looking downstream from crossing	90	B-03-087_P6170008
B-03-088	Looking upstream from crossing	310	B-03-088_P6180001
B-03-088	Looking downstream from crossing	90	B-03-088_P6180002
B-03-089	Looking upstream from crossing	180	B-03-089_P6180003
B-03-089	Looking downstream from crossing	360	B-03-089_P6180004
B-03-090	Looking upstream from crossing	270	B-03-090_P6180005
B-03-090	Looking downstream from crossing	90	B-03-090_P6180006
B-03-091	Looking upstream from crossing	270	B-03-091_P6180007
B-03-091	Looking downstream from crossing	360	B-03-091_P6180008
B-03-092	Looking upstream from crossing	110	B-03-092_P6180009
B-03-092	Looking downstream from crossing	75	B-03-092_P6180010
B-03-092	Looking downstream at 4 culverts from 30m upstream	N/A	B-03-092_P6180011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-03-093	Looking upstream from crossing	270	B-03-093_P6180012
B-03-093	Looking downstream from crossing	90	B-03-093_P6180013
B-03-094	Looking upstream from base of control structure	275	B-03-094_P6180014
B-03-094	Looking downstream from base of control structure	85	B-03-094_P6180015
B-03-094	Looking upstream at control structure from 10m downstream	N/A	B-03-094_P6180016
B-03-095	Looking upstream from control structure	290	B-03-095_P6190001
B-03-095	Looking downstream from control structure	80	B-03-095_P6190002
B-03-095	Looking upstream at control structure from 30m downstream	N/A	B-03-095_P6190003
B-03-096	Looking upstream from southeast quarter of stream junction	300	B-03-096_P6190004
B-03-096	Looking downstream from southeast quarter of stream junction	80	B-03-096_P6190005
B-03-097	Looking upstream from right bank at steam junction	360	B-03-097_P6190006
B-03-097	Looking downstream from right bank at stream junction	180	B-03-097_P6190007
B-03-098	Looking upstream from ford crossing	200	B-03-098_P6190008
B-03-098	Looking downstream from ford crossing	360	B-03-098_P6190009
B-03-099	Looking upstream from crossing	200	B-03-099_P6200001
B-03-099	Looking downstream from crossing	20	B-03-099_P6200002
B-03-100	Looking upstream from crossing	280	B-03-100_P6200003
B-03-100	Looking downstream from crossing	90	B-03-100_P6200004
B-03-101	Looking upstream from crossing	270	B-03-101_P6200005
B-03-101	Looking downstream from crossing	90	B-03-101_P6200006
B-03-102	Looking upstream from bridge	130	B-03-102_P6230001
B-03-102	Looking downstream from bridge	255	B-03-102_P6230002
B-03-103	Looking upstream from crossing	170	B-03-103_P6230003
B-03-103	Looking downstream from crossing	340	B-03-103_P6230004
B-03-104	Looking upstream from crossing	320	B-03-104_P6230005
B-03-104	Looking downstream from crossing	280	B-03-104_P6230006
B-03-104	Photo of turbulent flow created by deadfall	20	B-03-104_P6230007
B-03-105	Looking upstream from crossing	340	B-03-105_P6240001
B-03-105	Looking downstream from crossing	160	B-03-105_P6240002
B-03-106	Looking upstream from crossing	360	B-03-106_P6240003
B-03-106	Looking downstream from crossing	180	B-03-106_P6240004
B-03-107	Looking upstream from crossing	270	B-03-107_P6240005
B-03-107	Looking downstream from crossing	80	B-03-107_P6240006

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-108	Looking upstream from crossing	360	B-03-108_P6240007
B-03-108	Looking downstream from crossing	90	B-03-108_P6240008
B-03-109	Looking upstream from crossing	250	B-03-109_P6240009
B-03-109	Looking downstream from crossing	110	B-03-109_P6240010
B-03-110	Looking upstream from crossing	270	B-03-110_P6260001
B-03-110	Looking downstream from crossing	90	B-03-110_P6260002
B-03-110	Looking upstream from control structure	190	B-03-110_P6260003
B-03-111	Looking downstream from control structure	350	B-03-111_P6260004
B-03-111	Looking upstream at control structure	N/A	B-03-111_P6260005
B-03-112	Looking upstream from bridge	270	B-03-112_P6260006
B-03-112	Looking downstream from bridge	95	B-03-112_P6260007
B-03-113	Looking upstream from bridge	180	B-03-113_P6260008
B-03-113	Looking downstream from bridge	360	B-03-113_P6260009
B-03-114	Looking upstream from bridge	270	B-03-114_P6260010
B-03-114	Looking downstream from bridge	90	B-03-114_P6260011
B-03-115	Looking upstream from close to old bridge structure	180	B-03-115_P6270001
B-03-115	Looking downstream from close to old bridge structure	350	B-03-115_P6270002
B-03-116	Looking upstream from crossing	170	B-03-116_P6270003
B-03-116	Looking downstream from crossing	360	B-03-116_P6270004
B-03-117	Looking upstream from crossing	190	B-03-117_P6270005
B-03-117	Looking downstream from crossing	135	B-03-117_P6270006
B-03-118	Looking upstream from crossing	280	B-03-118_P6270007
B-03-118	Looking downstream from crossing	180	B-03-118_P6270008
B-03-119	Looking upstream from crossing	200	B-03-119_P7020001
B-03-119	Looking downstream from crossing	20	B-03-119_P7020002
B-03-120	Looking upstream from crossing	260	B-03-120_P7020003
B-03-120	Looking downstream from crossing	80	B-03-120_P7020004
B-03-121	Looking upstream from crossing	180	B-03-121_P7030001
B-03-121	Looking downstream from crossing	360	B-03-121_P7030002
B-03-122	Looking upstream from crossing	230	B-03-122_P7030003
B-03-122	Looking downstream from crossing	10	B-03-122_P7030004
B-03-122	Looking upstream from intersection	180	B-03-122_P7030005
B-03-122	Looking downstream from intersection	360	B-03-122_P7030006

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-03-123	Looking upstream from 10m west of road	180	B-03-123_P7030007
B-03-123	Looking downstream from 10m west of road	10	B-03-123_P7030008
B-03-124	Looking upstream from crossing	360	B-03-124_P7030009
B-03-124	Looking downstream from crossing	180	B-03-124_P7030010
B-03-125	Looking upstream from crossing	250	B-03-125_P7030011
B-03-125	Looking downstream from crossing	20	B-03-125_P7030012
B-03-126	Looking upstream from bridge	250	B-03-126_P7040001
B-03-126	Looking downstream from bridge	140	B-03-126_P7040002
B-03-127	Looking upstream from crossing	250	B-03-127_P7040003
B-03-127	Looking downstream from crossing	40	B-03-127_P7040004
B-03-128	Looking upstream from crossing	270	B-03-128_P7040005
B-03-128	Looking downstream from crossing	90	B-03-128_P7040006
B-03-129	Looking upstream from crossing	260	B-03-129_P7040007
B-03-129	Looking downstream from crossing	10	B-03-129_P7040008
B-03-130	Looking upstream from crossing	320	B-03-130_P7040009
B-03-130	Looking downstream from crossing	170	B-03-130_P7040010
B-03-130	Photo of cattle grazing in drain	N/A	B-03-130_P7040011
B-03-131	Looking upstream from crossing	190	B-03-131_P7040012
B-03-131	Looking downstream from crossing	80	B-03-131_P7040013
B-03-132	Looking upstream from under former railway crossing	10	B-03-132_P7070001
B-03-132	Looking downstream from under former railway crossing	195	B-03-132_P7070002
B-03-132	Photo of Brook Trout	N/A	B-03-132_P7070003
B-03-133	Looking upstream from crossing	320	B-03-133_P7070004
B-03-133	Looking downstream from crossing	150	B-03-133_P7070005
B-03-133	Looking upstream at culvert	N/A	B-03-133_P7070006
B-03-134	Looking upstream from crossing	100	B-03-134_P7070007
B-03-134	Looking downstream from crossing	250	B-03-134_P7070008
B-03-135	Looking upstream from crossing	15	B-03-135_P7070009
B-03-135	Looking downstream from crossing	200	B-03-135_P7070010
B-03-135	Photo of north ditch of PR 471 to east	90	B-03-135_P7070011
B-03-135	Photo of north ditch of PR 471 to west	270	B-03-135_P7070012
B-03-136	Looking upstream from crossing	15	B-03-136_P7070013
B-03-136	Looking downstream from crossing	270	B-03-136_P7070014

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-03-137	Looking upstream from crossing	270	B-03-137_P7070015
B-03-137	Looking downstream from crossing	140	B-03-137_P7070016
B-03-138	Looking upstream from crossing	270	B-03-138_P7070017
B-03-138	Looking downstream from crossing	90	B-03-138_P7070018
B-03-139	Looking upstream from crossing	270	B-03-139_P7070019
B-03-139	Looking downstream from crossing	90	B-03-139_P7070020
B-03-140	Looking upstream from crossing	45	B-03-140_P7080001
B-03-140	Looking downstream from crossing	220	B-03-140_P7080002
B-03-140	Photo of culvert	N/A	B-03-140_P7080003
B-03-141	Looking upstream from crossing	280	B-03-141_P7080004
B-03-141	Looking downstream from crossing	90	B-03-141_P7080005
B-03-141	Looking upstream at perched culvert	N/A	B-03-141_P7080006
B-03-142	Looking upstream from crossing	270	B-03-142_P7080007
B-03-142	Looking downstream from crossing	90	B-03-142_P7080008
B-03-142	Looking upstream at culvert	N/A	B-03-142_P7080009
B-03-143	Looking upstream from crossing of gravel road	340	B-03-143_P7080010
B-03-143	Looking downstream from crossing of gravel road	100	B-03-143_P7080011
B-03-143	Looking downstream from crossing of PR 344	90	B-03-143_P7080013
B-03-143	Looking upstream at cement culverts from 30m west of PR 344	100	B-03-143_P7080014
B-03-144	Looking upstream from crossing	140	B-03-144_P7090001
B-03-144	Looking downstream from crossing	50	B-03-144_P7090002
B-03-145	Looking upstream from crossing	210	B-03-145_P7090003
B-03-145	Looking downstream from crossing	50	B-03-145_P7090004
B-03-146	Looking upstream from crossing	180	B-03-146_P7090005
B-03-146	Looking downstream from crossing	340	B-03-146_P7090006
B-03-147	Looking upstream from crossing	170	B-03-147_P7090007
B-03-147	Looking downstream from crossing	40	B-03-147_P7090008
B-03-148	Looking upstream from crossing	100	B-03-148_P7090009
B-03-148	Looking downstream from crossing	250	B-03-148_P7090010
B-03-148	Looking upstream at culverts	N/A	B-03-148_P7090011
B-03-149	Looking upstream from crossing	200	B-03-149_P7090012
B-03-149	Looking downstream from crossing	360	B-03-149_P7090013
B-03-150	Looking upstream from crossing	220	B-03-150_P7090014

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-150	Looking downstream from crossing	65	B-03-150_P7090015
B-03-151	Looking upstream from crossing	60	B-03-151_P7100001
B-03-151	Looking downstream from crossing	300	B-03-151_P7100002
B-03-151	Looking upstream at culverts	N/A	B-03-151_P7100003
B-03-151	Looking upstream at riffles	N/A	B-03-151_P7100004
B-03-152	Looking upstream from crossing	300	B-03-152_P7100005
B-03-152	Looking downstream from crossing	210	B-03-152_P7100006
B-03-153	Looking upstream from crossing	90	B-03-153_P7100007
B-03-153	Looking downstream from crossing	280	B-03-153_P7100008
B-03-154	Looking upstream from crossing	10	B-03-154_P7100009
B-03-154	Looking downstream from crossing	180	B-03-154_P7100010
B-03-155	Looking upstream from crossing	10	B-03-155_P7110001
B-03-155	Looking downstream from crossing	180	B-03-155_P7110002
B-03-156	Looking upstream from crossing	20	B-03-156_P7110003
B-03-156	Looking downstream from crossing	200	B-03-156_P7110004
B-03-157	Looking upstream from crossing	10	B-03-157_P7110005
B-03-157	Looking downstream from crossing	160	B-03-157_P7110006
B-03-157	Photo of two perched most easterly culverts	N/A	B-03-157_P7110007
B-03-157	Looking downstream at outflow of west culvert	220	B-03-157_P7110008
B-03-157	Photo of west culvert	N/A	B-03-157_P7110009
B-03-158	Looking upstream from crossing	180	B-03-158_P7110010
B-03-158	Looking downstream from crossing	360	B-03-158_P7110011
B-03-159	Looking upstream from crossing	110	B-03-159_P7110012
B-03-159	Looking downstream from crossing	290	B-03-159_P7110013
B-03-160	Looking upstream from crossing	160	B-03-160_P7110014
B-03-160	Looking downstream from crossing	300	B-03-160_P7110015
B-03-161	Looking upstream from crossing	310	B-03-161_P7140001
B-03-161	Looking downstream from crossing	140	B-03-161_P7140002
B-03-162	Looking upstream from crossing	200	B-03-162_P7140003
B-03-162	Looking downstream from crossing	80	B-03-162_P7140004
B-03-163	Looking upstream from middle of control structure	10	B-03-163_P7140005
B-03-163	Looking downstream from middle of control structure	210	B-03-163_P7140006
B-03-163	Looking across control structure from right bank	N/A	B-03-163_P7140007

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-164	Looking upstream from crossing	270	B-03-164_P7140008
B-03-164	Looking downstream from crossing	90	B-03-164_P7140009
B-03-165	Looking upstream from crossing	180	B-03-165_P7140010
B-03-165	Looking upstream from crossing at second order drains	270	B-03-165_P7140011
B-03-165	Looking downstream from crossing	360	B-03-165_P7140012
B-03-166	Looking upstream from crossing	270	B-03-166_P7140013
B-03-166	Looking downstream from crossing	90	B-03-166_P7140014
B-03-167	Looking upstream from crossing	270	B-03-167_P7140015
B-03-167	Looking downstream from crossing	90	B-03-167_P7140016
B-03-168	Looking upstream from crossing	270	B-03-168_P7140017
B-03-168	Looking downstream from crossing	90	B-03-168_P7140018
B-03-169	Looking upstream from crossing	270	B-03-169_P7140019
B-03-169	Looking downstream from crossing	90	B-03-169_P7140020
B-03-170	Looking upstream from crossing	270	B-03-170_P7140021
B-03-170	Looking downstream from crossing	90	B-03-170_P7140022
B-03-171	Looking upstream from crossing	270	B-03-171_P7140023
B-03-171	Looking downstream from crossing	90	B-03-171_P7140024
B-03-172	Looking upstream from crossing	270	B-03-172_P7140025
B-03-172	Looking downstream from crossing	90	B-03-172_P7140026
B-03-173	Looking upstream from crossing	270	B-03-173_P7140027
B-03-173	Looking downstream from crossing	90	B-03-173_P7140028
B-03-174	Looking upstream from crossing	270	B-03-174_P7140029
B-03-174	Looking downstream from crossing	90	B-03-174_P7140030
B-03-175	Looking upstream from crossing	270	B-03-175_P7140031
B-03-175	Looking downstream from crossing	90	B-03-175_P7140032
B-03-176	Looking upstream from crossing	270	B-03-176_P7140033
B-03-176	Looking downstream from crossing	90	B-03-176_P7140034
B-03-177	Looking upstream from crossing	270	B-03-177_P7140035
B-03-177	Looking downstream from crossing	90	B-03-177_P7140036
B-03-178	Looking upstream from crossing	270	B-03-178_P7140037
B-03-178	Looking downstream from crossing	90	B-03-178_P7140038
B-03-179	Looking upstream from crossing	270	B-03-179_P7140039
B-03-179	Looking downstream from crossing	90	B-03-179_P7140040

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-03-180	Looking upstream from crossing	270	B-03-180_P7140041
B-03-180	Looking downstream from crossing	90	B-03-180_P7140042
B-03-181	Looking upstream from crossing	260	B-03-181_P7150001
B-03-181	Looking downstream from crossing	150	B-03-181_P7150002
B-03-182	Looking upstream from crossing	180	B-03-182_P7160001
B-03-182	Looking downstream from crossing	360	B-03-182_P7160002
B-03-182	Looking at former crossing	90	B-03-182_P7160003
B-03-183	Looking upstream from crossing	180	B-03-183_P7160004
B-03-183	Looking downstream from crossing	360	B-03-183_P7160005
B-03-183	Photo of Walleye	N/A	B-03-183_P7160006
B-03-183	Photo of Northern Pike	N/A	B-03-183_P7160007
B-03-184	Looking upstream from crossing	90	B-03-184_P7160008
B-03-184	Looking downstream from crossing	260	B-03-184_P7160009
B-03-185	Looking upstream from crossing	200	B-03-185_P7160010
B-03-185	Looking downstream from crossing	350	B-03-185_P7160011
B-03-186	Looking upstream from crossing	130	B-03-186_P7160012
B-03-186	Looking downstream from crossing	310	B-03-186_P7160021
B-03-187	Looking upstream from crossing	50	B-03-187_P7160013
B-03-187	Looking downstream from crossing	310	B-03-187_P7160014
B-03-188	Looking upstream from crossing	90	B-03-188_P7160015
B-03-188	Looking downstream from crossing	180	B-03-188_P7160016
B-03-189	Looking upstream from crossing	130	B-03-189_P7160017
B-03-189	Looking downstream from crossing	10	B-03-189_P7160018
B-03-189	Photo of Northern Pike	N/A	B-03-189_P7160019
B-03-189	Photo of Black Bullhead	N/A	B-03-189_P7160020
B-03-190	Looking upstream from crossing	300	B-03-190_P7160022
B-03-190	Looking downstream from crossing	160	B-03-190_P7160023
B-03-191	Looking upstream from crossing	90	B-03-191_P7170001
B-03-191	Looking downstream from crossing	260	B-03-191_P7170002
B-03-192	Looking upstream from riffle	95	B-03-192_P7170003
B-03-192	Looking downstream from riffle	265	B-03-192_P7170004
B-03-192	Looking upstream at riffles	N/A	B-03-192_P7170005
B-03-193	Looking upstream from crossing	250	B-03-193_P7170006

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-193	Looking downstream from crossing	120	B-03-193_P7170007
B-03-194	Looking upstream from crossing	100	B-03-194_P7200001
B-03-194	Looking downstream from crossing	20	B-03-194_P7220002
B-03-195	Looking upstream from crossing	170	B-03-195_P7230001
B-03-195	Looking downstream from crossing	350	B-03-195_P7230002
B-03-196	Looking upstream from crossing	180	B-03-196_P7230003
B-03-196	Looking downstream from crossing	350	B-03-196_P7230004
B-03-197	Looking upstream from crossing	90	B-03-197_P7230005
B-03-197	Looking downstream from crossing	270	B-03-197_P7230006
B-03-198	Looking upstream from crossing	130	B-03-198_P7230007
B-03-198	Looking downstream from crossing	300	B-03-198_P7230008
B-03-199	Looking upstream from crossing	110	B-03-199_P7230009
B-03-199	Looking downstream from crossing	200	B-03-199_P7230010
B-03-200	Looking at aerated pond from gravel road	270	B-03-200_P7230011
B-03-200	Looking at outlet of culvert from left bank	N/A	B-03-200_P7230012
B-03-200	Looking downstream from outlet of culvert	10	B-03-200_P7230013
B-03-200	Looking upstream from outlet of culvert	160	B-03-200_P7230014
B-03-200	Looking across control structure from right bank	90	B-03-200_P7230015
B-03-200	Looking upstream at control structure from 10m downstream	N/A	B-03-200_P7230016
B-03-200	Looking downstream at pool from base of control structure	360	B-03-200_P7230017
B-03-200	Photo of Sauger	N/A	B-03-200_P7230018
B-03-200	Photo of Sauger	N/A	B-03-200_P7230019
B-03-200	Photo of Sauger	N/A	B-03-200_P7230020
B-03-200	Photo of Black Crappie	N/A	B-03-200_P7230021
B-03-200	Photo of Black Crappie	N/A	B-03-200_P7230022
B-03-200	Bad photo of Black Crappie	N/A	B-03-200_P7230023
B-03-200	Photo of Black Bullhead	N/A	B-03-200_P7230024
B-03-201	Looking upstream from control structure	100	B-03-201_P7230025
B-03-201	Looking downstream from control structure	280	B-03-201_P7230026
B-03-201	Looking across structure from left bank	N/A	B-03-201_P7230027
B-03-201	Looking upstream at control structure	N/A	B-03-201_P7230028
B-03-202	Looking upstream from crossing	180	B-03-202_P7230029
B-03-202	Looking downstream from crossing	360	B-03-202_P7230030

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-03-203	Looking upstream from crossing	180	B-03-203_P7230031
B-03-203	Looking downstream from crossing	360	B-03-203_P7230032
B-03-204	Looking upstream from crossing	180	B-03-204_P7230033
B-03-204	Looking downstream from crossing	360	B-03-204_P7230034
B-03-205	Looking upstream from crossing	150	B-03-205_P7230035
B-03-205	Looking downstream from crossing	360	B-03-205_P7230036
B-03-206	Looking upstream from bridge	90	B-03-206_P7240001
B-03-206	Looking downstream from bridge	270	B-03-206_P7240002
B-03-206	Looking upstream at riffles	N/A	B-03-206_P7240003
B-03-206	Photo of Walleye	N/A	B-03-206_P7240004
B-03-207	Looking upstream from bridge	90	B-03-207_P7240005
B-03-207	Looking downstream from bridge	360	B-03-207_P7240006
B-03-207	Photo of White Sucker	N/A	B-03-207_P7240007
B-03-207	Photo of Fathead Minnow	N/A	B-03-207_P7240008
B-03-208	Looking upstream from crossing	110	B-03-208_P7240009
B-03-208	Looking downstream from crossing	300	B-03-208_P7240010
B-03-209	Looking upstream from crossing	120	B-03-209_P7240011
B-03-209	Looking downstream from crossing	360	B-03-209_P7240012
B-03-210	Looking upstream from crossing	70	B-03-210_P7240013
B-03-210	Looking downstream from crossing	280	B-03-210_P7240014
B-03-211	Looking upstream from dam at left bank	160	B-03-211_P7240015
B-03-211	Looking downstream from dam at left bank	270	B-03-211_P7240016
B-03-211	Photo of old mill?	N/A	B-03-211_P7240017
B-03-211	Looking at dam from left bank	N/A	B-03-211_P7240018
B-03-212	Looking upstream from point in stream	90	B-03-212_P7240019
B-03-212	Looking downstream from point in stream	270	B-03-212_P7240020
B-03-212	Photo of boulder crossing located 400m upstream from sample reach	N/A	B-03-212_P7240021
B-03-213	Looking upstream from crossing	90	B-03-213_P7240022
B-03-213	Looking downstream from crossing	270	B-03-213_P7240023
B-03-214	Looking upstream from crossing	190	B-03-214_P7250001
B-03-214	Looking downstream from crossing	40	B-03-214_P7250002
B-03-215	Looking upstream from bridge	220	B-03-215_P7250003
B-03-215	Looking downstream from bridge	360	B-03-215_P7250004

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-03-216	Looking upstream from crossing	90	B-03-216_P7250005
B-03-216	Looking downstream from crossing	280	B-03-216_P7250006
B-03-217	Looking upstream from crossing	140	B-03-217_P7250007
B-03-217	Looking downstream from crossing	320	B-03-217_P7250008
B-03-218	Looking upstream from crossing	90	B-03-218_P7250009
B-03-218	Looking downstream from crossing	270	B-03-218_P7250010
B-03-218	Photo of small pool	N/A	B-03-218_P7250011
B-03-219	Looking upstream from crossing	90	B-03-219_P7250012
B-03-219	Looking downstream from crossing	360	B-03-219_P7250013
B-03-219	Looking upstream of crossing	N/A	B-03-219_P7250014
B-03-220	Looking upstream from crossing	95	B-03-220_P7250015
B-03-220	Looking downstream from crossing	210	B-03-220_P7250016
B-03-221	Looking upstream from crossing	220	B-03-221_P7250017
B-03-221	Looking downstream from crossing	20	B-03-221_P7250018
B-03-222	Looking upstream from crossing	120	B-03-222_P7250019
B-03-222	Looking downstream from crossing	280	B-03-222_P7250020
B-03-222	Looking upstream of culverts	N/A	B-03-222_P7250021
B-03-223	Looking upstream from crossing	280	B-03-223_P8050001
B-03-223	Looking downstream from crossing	222	B-03-223_P8050002
B-03-224	Looking upstream from crossing	245	B-03-224_P8050003
B-03-224	Looking downstream from crossing	110	B-03-224_P8050004
B-03-224	Looking upstream at perched culverts	N/A	B-03-224_P8050005
B-03-225	Looking upstream from crossing	360	B-03-225_P8050006
B-03-225	Looking downstream from crossing	90	B-03-225_P8050007
B-03-226	Looking upstream from PTH 9 bridge crossing	270	B-03-226_P8060001
B-03-226	Looking downstream from PTH 9 bridge crossing	90	B-03-226_P8060002
B-03-226	Photo of "danger rocks" sign	N/A	B-03-226_P8060003
B-03-226	Looking upstream from rocks	270	B-03-226_P8060004
B-03-226	Looking downstream from rocks	90	B-03-226_P8060005
B-03-227	Looking upstream from crossing	200	B-03-227_P8060006
B-03-227	Looking downstream from crossing	50	B-03-227_P8060007
B-03-228	Looking upstream from crossing	270	B-03-228_P8060008
B-03-228	Looking downstream from crossing	90	B-03-228_P8060009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-229	Looking upstream from crossing	270	B-03-229_P8060010
B-03-229	Looking downstream from crossing	90	B-03-229_P8060011
B-03-230	Looking upstream from v-notch weir	270	B-03-230_P8060012
B-03-230	Looking downstream from v-notch weir	90	B-03-230_P8060013
B-03-230	Looking upstream at weir from 20m downstream	270	B-03-230_P8060014
B-03-230	Looking upstream at weir from 10m downstream	270	B-03-230_P8060015
B-03-230	Photo of toad	N/A	B-03-230_P8060016
B-03-230	Photo of toad	N/A	B-03-230_P8060017
B-03-231	Looking upstream from bridge	230	B-03-231_P8060018
B-03-231	Looking downstream from bridge	65	B-03-231_P8060019
B-03-232	Looking upstream from crossing	310	B-03-232_P8060020
B-03-232	Looking downstream from crossing	75	B-03-232_P8060021
B-03-233	Looking upstream from crossing	270	B-03-233_P8060022
B-03-233	Looking downstream from crossing	90	B-03-233_P8060023
B-03-234	Looking upstream from crossing	270	B-03-234_P8060024
B-03-234	Looking downstream from crossing	90	B-03-234_P8060025
B-03-235	Looking upstream from crossing	270	B-03-235_P8060026
B-03-235	Looking downstream from crossing	90	B-03-235_P8060027
B-03-236	Looking upstream from crossing	290	B-03-236_P8060028
B-03-236	Looking downstream from crossing	120	B-03-236_P8060029
B-03-237	Looking upstream from crossing	150	B-03-237_P8070001
B-03-237	Looking downstream from crossing	330	B-03-237_P8070002
B-03-238	Looking upstream from crossing	270	B-03-238_P8070003
B-03-238	Looking downstream from crossing	90	B-03-238_P8070004
B-03-239	Photo of ford crossing	N/A	B-03-239_P8070005
B-03-239	Looking upstream from crossing	180	B-03-239_P8070006
B-03-239	Looking downstream from crossing	10	B-03-239_P8070007
B-03-240	Looking upstream from crossing	270	B-03-240_P8070008
B-03-240	Looking downstream from crossing	90	B-03-240_P8070009
B-03-241	Looking upstream from bridge	75	B-03-241_P8070010
B-03-241	Looking downstream from bridge	215	B-03-241_P8070011
B-03-242	Looking upstream from bridge	340	B-03-242_P8070012
B-03-242	Looking downstream from bridge	240	B-03-242_P8070013

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-03-243	Looking upstream from crossing	110	B-03-243_P8070014
B-03-243	Looking downstream from crossing	270	B-03-243_P8070015
B-03-244	Looking upstream from dam	270	B-03-244_P8070016
B-03-244	Looking downstream from dam	80	B-03-244_P8070017
B-03-244	Looking upstream at dam	N/A	B-03-244_P8070018
B-03-244	Looking at staff gauge	N/A	B-03-244_P8070019
B-03-245	Looking upstream from crossing	160	B-03-245_P8070020
B-03-245	Looking downstream from crossing	230	B-03-245_P8070021
B-03-246	Looking upstream from crossing	340	B-03-246_P8080001
B-03-246	Looking downstream from crossing	140	B-03-246_P8080002
B-03-247	Looking upstream from crossing	330	B-03-247_P8080003
B-03-247	Looking downstream from crossing	135	B-03-247_P8080004
B-03-248	Looking upstream from crossing	270	B-03-248_P8080005
B-03-248	Looking downstream from crossing	90	B-03-248_P8080006
B-03-249	Looking upstream from bridge	270	B-03-249_P8080009
B-03-249	Looking downstream from bridge	30	B-03-249_P8080010
B-03-250	Looking upstream from dike	270	B-03-250_P8080011
B-03-250	Looking downstream from dike	90	B-03-250_P8080012
B-03-250	Photo of culverts and Geotextile cloth	N/A	B-03-250_P8080013
D-03-001	Looking upstream from mid-reach	270	D-03-001_P5080001
D-03-001	Looking downstream from mid-reach	90	D-03-001_P5080002
D-03-001	Looking across low head dam	0	D-03-001_P5080003
D-03-002	Looking upstream across road	340	D-03-002_P5100001
D-03-002	Looking upstream from road	340	D-03-002_P5100002
D-03-002	Looking downstream from road	110	D-03-002_P5100003
D-03-002	Looking upstream from below beaver dam	270	D-03-002_P5100004
D-03-002	Looking upstream at perched culverts	360	D-03-002_P5100005
D-03-003	Looking upstream from bottom of reach	270	D-03-003_P5100006
D-03-003	Looking downstream from top of reach	90	D-03-003_P5100007
D-03-004	Looking upstream from bridge crossing	260	D-03-004_P5110008
D-03-004	Looking downstream from bridge crossing	80	D-03-004_P5110009
D-03-005	Looking upstream from bottom of reach	270	D-03-005_P5110010
D-03-005	Looking upstream at gradient control structure	270	D-03-005_P5110011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-03-005	Looking downstream from gradient control structure	90	D-03-005_P5110012
D-03-006	Looking upstream from bridge crossing	270	D-03-006_P5120001
D-03-006	Looking downstream from bridge crossing	90	D-03-006_P5120002
D-03-007	Looking downstream from bridge crossing	0	D-03-007_P5120003
D-03-007	Looking upstream from bridge crossing	180	D-03-007_P5120004
D-03-007	Looking upstream from bridge crossing	180	D-03-007_P5120005
D-03-008	Looking 125 m upstream from dam	N/A	D-03-008_P5130001
D-03-008	Looking downstream 125 m upstream from dam	N/A	D-03-008_P5130002
D-03-008	Looking upstream from 30 m downstream of dam	N/A	D-03-008_P5130003
D-03-009	Looking upstream from crossing	180	D-03-009_P5130004
D-03-009	Looking upstream from 30 m back from crossing	180	D-03-009_P5130005
D-03-010	Looking upstream from bridge crossing	210	D-03-010_P5130006
D-03-010	Looking downstream from bridge crossing	30	D-03-010_P5130007
D-03-010	Looking east at Verhaeghe Drain	90	D-03-010_P5130008
D-03-011	Looking upstream from concrete raised crossing	180	D-03-011_P5130009
D-03-011	Looking downstream from concrete raised crossing	0	D-03-011_P5130010
D-03-011	Looking upstream from 20 m downstream of raised crossing	180	D-03-011_P5130011
D-03-012	Looking upstream from top of reach at junction of Laurier Drain	270	D-03-012_P5130012
D-03-012	Looking downstream from top of reach	80	D-03-012_P5130013
D-03-012	Looking upstream from bottom of reach	270	D-03-012_P5130014
D-03-013	Looking upstream from junction of Laurier Drain and Henderson Creek	180	D-03-013_P5130015
D-03-014	Looking upstream from bridge crossing	N/A	D-03-014_P5130016
D-03-014	Looking downstream from bridge crossing	N/A	D-03-014_P5130017
D-03-015	Looking upstream from crossing	215	D-03-015_P5140001
D-03-015	Looking downstream from crossing	45	D-03-015_P5140002
D-03-015	Looking west at incoming drain	270	D-03-015_P5140003
D-03-016	Looking upstream from top of control structure (sediment trap)	190	D-03-016_P5140004
D-03-016	Looking downstream from top of control structure	10	D-03-016_P5140005
D-03-016	Looking upstream at sediment trap	190	D-03-016_P5140006
D-03-017	Looking upstream from crossing	270	D-03-017_P5140007
D-03-017	Looking downstream from crossing	90	D-03-017_P5140008
D-03-017	Looking upstream at culvert	270	D-03-017_P5140009
D-03-017	Photo of completing habitat assessment at Dead Ox Creek	N/A	D-03-017_P5140010

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-03-018	Looking upstream from bridge on PTH 19	0	D-03-018_P5140011
D-03-018	Looking downstream from bridge on PTH 19	180	D-03-018_P5140012
D-03-019	Looking upstream from bridge crossing	270	D-03-019_P5140013
D-03-019	Looking downstream from bridge crossing	90	D-03-019_P5140014
D-03-020	Looking upstream from bridge crossing	270	D-03-020_P5140015
D-03-020	Looking downstream from bridge crossing	90	D-03-020_P5140016
D-03-020	Looking upstream at concrete bridge from 10 m below crossing	310	D-03-020_P5140017
D-03-021	Looking upstream from crossing	290	D-03-021_P6030001
D-03-021	Looking downstream from crossing	100	D-03-021_P6030002
D-03-022	Looking upstream from crossing	270	D-03-022_P6030003
D-03-022	Looking downstream from crossing	95	D-03-022_P6030004
D-03-023	Looking upstream from crossing	270	D-03-023_P6030005
D-03-023	Looking downstream from crossing	90	D-03-023_P6030006
D-03-023	Looking north at culverts	0	D-03-023_P6030007
D-03-023	Looking east from 100 m upstream of culverts	90	D-03-023_P6030008
D-03-024	Looking upstream from crossing	270	D-03-024_P6030009
D-03-024	Looking downstream from crossing	120	D-03-024_P6030010
D-03-024	Looking downstream from 50 m above crossing	N/A	D-03-024_P6030011
D-03-024	Looking downstream from 30 m south of crossing	90	D-03-024_P6030012
D-03-025	Looking upstream from crossing	180	D-03-025_P6030013
D-03-025	Looking downstream from crossing	0	D-03-025_P6030014
D-03-025	Looking upstream under bridge	0	D-03-025_P6030015
D-03-026	Looking upstream from concrete bridge crossing	305	D-03-026_P6030016
D-03-026	Looking downstream from crossing	130	D-03-026_P6030017
D-03-026	Looking upstream under bridge - note limits to fish passage	250	D-03-026_P6030018
D-03-026	Looking at critical habitat sign 50 m SE of crossing	90	D-03-026_P6030019
D-03-027	Looking upstream from crossing at Lizard Lake	270	D-03-027_P6040001
D-03-027	Looking downstream from crossing	90	D-03-027_P6040002
D-03-027	Looking upstream at perched culverts	270	D-03-027_P6040003
D-03-028	Looking upstream from crossing	250	D-03-028_P6040004
D-03-028	Looking downstream from crossing	155	D-03-028_P6040005
D-03-028	Looking east at structure	90	D-03-028_P6040006
D-03-028	Looking west at structure	270	D-03-028_P6040007

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-03-029	Looking upstream from crossing	220	D-03-029_P6040008
D-03-029	Looking downstream from crossing	30	D-03-029_P6040009
D-03-030	Looking upstream from crossing	285	D-03-030_P6040010
D-03-030	Looking downstream from crossing	140	D-03-030_P6040011
D-03-030	Looking upstream at perched culverts	270	D-03-030_P6040012
D-03-031	Looking upstream from crossing	270	D-03-031_P6040013
D-03-031	Looking downstream from crossing	120	D-03-031_P6040014
D-03-031	Looking west at perched culverts	270	D-03-031_P6040015
D-03-032	Looking upstream from crossing	270	D-03-032_P6040016
D-03-032	Looking downstream from crossing	90	D-03-032_P6040017
D-03-032	Looking west at downstream end of culverts	270	D-03-032_P6040018
D-03-033	Looking upstream from crossing	0	D-03-033_P6040019
D-03-033	Looking downstream from crossing	180	D-03-033_P6040020
D-03-034	Looking upstream from crossing	300	D-03-034_P6040021
D-03-034	Looking downstream from crossing	45	D-03-034_P6040022
D-03-034	Looking downstream from crossing	180	D-03-034_P6040023
D-03-035	Looking upstream from crossing	0	D-03-035_P6050001
D-03-035	Looking downstream from crossing	180	D-03-035_P6050002
D-03-036	Looking upstream from crossing	245	D-03-036_P6050003
D-03-036	Looking downstream from crossing	60	D-03-036_P6050004
D-03-036	Looking downstream at Dave, Shawna, and Daniel fishing	90	D-03-036_P6050005
D-03-037	Looking upstream from crossing	330	D-03-037_P6050006
D-03-037	Looking downstream from crossing	150	D-03-037_P6050007
D-03-038	Looking upstream at dam	90	D-03-038_P6060001
D-03-038	Looking upstream at dam middle across to north	90	D-03-038_P6060002
D-03-038	Looking upstream at dam middle across to south	90	D-03-038_P6060003
D-03-038	Looking downstream from just above weir	200	D-03-038_P6060004
D-03-038	Looking upstream at Inglis Beach Park	110	D-03-038_P6060005
D-03-038	Looking across base of dam (north)	0	D-03-038_P6060006
D-03-038	Looking across base of dam (north)	0	D-03-038_P6060007
D-03-038	Looking across base of dam (north)	0	D-03-038_P6060008
D-03-038	Looking upstream at Bear Creek	N/A	D-03-038_P6060009
D-03-039	Looking upstream from crossing	270	D-03-039_P6100001

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-03-039	Looking downstream from crossing	90	D-03-039_P6100002
D-03-039	Looking downstream through culverts from upstream of culverts	140	D-03-039_P6100003
D-03-039	Looking at downstream end of culverts from just below culverts	210	D-03-039_P6100004
D-03-040	Looking upstream from crossing	290	D-03-040_P6100005
D-03-040	Looking downstream from crossing	110	D-03-040_P6100006
D-03-041	Looking upstream from crossing	180	D-03-041_P6100007
D-03-041	Looking upstream from crossing	180	D-03-041_P6100008
D-03-041	Looking downstream from crossing	0	D-03-041_P6100009
D-03-041	Looking upstream from 50 m below crossing	200	D-03-041_P6100010
D-03-042	Looking upstream from bridge crossing	180	D-03-042_P6100011
D-03-042	Looking downstream from bridge crossing	0	D-03-042_P6100012
D-03-043	Looking upstream from crossing	270	D-03-043_P6100013
D-03-043	Looking downstream from crossing	90	D-03-043_P6100014
D-03-044	Looking upstream from bridge crossing	270	D-03-044_P6110001
D-03-044	Looking downstream from bridge crossing	90	D-03-044_P6110002
D-03-045	Looking upstream from bottom of reach	270	D-03-045_P6110003
D-03-045	Looking upstream from mid-reach	180	D-03-045_P6110004
D-03-045	Looking downstream from mid-reach	90	D-03-045_P6110005
D-03-046	Looking upstream from bridge crossing	270	D-03-046_P6110006
D-03-046	Looking downstream from bridge crossing	90	D-03-046_P6110007
D-03-046	Looking at downstream end of bridge	N/A	D-03-046_P6110008
D-03-047	Looking upstream from ford crossing	270	D-03-047_P6110009
D-03-047	Looking downstream from ford crossing	90	D-03-047_P6110010
D-03-047	Looking southwest across downstream end of ford crossing	210	D-03-047_P6110011
D-03-047	Looking southwest across downstream end of ford crossing	210	D-03-047_P6110012
D-03-048	Looking upstream from crossing	0	D-03-048_P6110013
D-03-048	Looking downstream from crossing	120	D-03-048_P6110014
D-03-048	Looking west up incoming 3rd order drain	270	D-03-048_P6110015
D-03-049	Looking upstream from crossing	180	D-03-049_P6110016
D-03-049	Looking downstream from crossing	0	D-03-049_P6110017
D-03-050	Looking upstream from crossing	290	D-03-050_P6130001
D-03-050	Looking downstream from crossing	90	D-03-050_P6130002
D-03-051	Looking upstream from bridge crossing	10	D-03-051_P6130003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-03-051	Looking downstream from bridge crossing	190	D-03-051_P6130004
D-03-052	Looking upstream from culvert crossing	0	D-03-052_P6130005
D-03-052	Looking downstream from culvert crossing	180	D-03-052_P6130006
D-03-052	Looking upstream at downstream end of perched culverts	0	D-03-052_P6130007
D-03-053	Looking upstream from bridge crossing	290	D-03-053_P6130008
D-03-053	Looking downstream from bridge crossing	90	D-03-053_P6130009
D-03-054	Looking upstream from bridge crossing	220	D-03-054_P6130010
D-03-054	Looking downstream from bridge crossing	45	D-03-054_P6130011
D-03-055	Looking upstream from bridge crossing	360	D-03-055_P6130012
D-03-055	Looking downstream from bridge crossing	180	D-03-055_P6130013
D-03-055	Looking at lady slippers on site	N/A	D-03-055_P6130014
D-03-056	Looking upstream from bridge crossing	270	D-03-056_P6130015
D-03-056	Looking downstream from bridge crossing	90	D-03-056_P6130016
D-03-057	Looking upstream from mid-reach	180	D-03-057_P6130017
D-03-057	Looking downstream from mid-reach	0	D-03-057_P6130018
D-03-058	Looking upstream from ford crossing	270	D-03-058_P6160001
D-03-058	Looking upstream from 50 m below crossing	270	D-03-058_P6160002
D-03-058	Looking downstream from ford crossing	90	D-03-058_P6160003
D-03-059	Looking upstream from raised crossing	270	D-03-059_P6160004
D-03-059	Looking downstream from raised crossing	90	D-03-059_P6160005
D-03-059	Looking upstream at raised crossing from 20 m downstream	280	D-03-059_P6160006
D-03-060	Looking downstream from culvert crossing	10	D-03-060_P6160007
D-03-060	Looking upstream from culvert crossing	180	D-03-060_P6160008
D-03-061	Looking upstream from bridge crossing	270	D-03-061_P6170001
D-03-061	Looking downstream from bridge crossing	90	D-03-061_P6170002
D-03-062	Looking upstream from bridge crossing	270	D-03-062_P6170003
D-03-062	Looking downstream from bridge crossing	90	D-03-062_P6170004
D-03-063	Looking upstream from culvert crossing	210	D-03-063_P6170005
D-03-063	Looking downstream from culvert crossing	65	D-03-063_P6170006
D-03-063	Looking upstream at downstream end of culverts	310	D-03-063_P6170007
D-03-064	Looking upstream from culvert crossing	270	D-03-064_P6170008
D-03-064	Looking downstream from culvert crossing	90	D-03-064_P6170009
D-03-065	Looking upstream from bridge crossing	180	D-03-065_P6170010

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-03-065	Looking downstream from bridge crossing	0	D-03-065_P6170011
D-03-066	Looking upstream from bridge crossing	250	D-03-066_P6180001
D-03-066	Looking downstream from bridge crossing	80	D-03-066_P6180002
D-03-067	Looking upstream from culvert crossing	225	D-03-067_P6180003
D-03-067	Looking downstream from culvert crossing	100	D-03-067_P6180004
D-03-067	Looking at downstream end of culverts #1 and 2 (northern most)	270	D-03-067_P6180005
D-03-067	Looking at downstream end of perched culvert #5 (middle culvert)	270	D-03-067_P6180006
D-03-067	Looking at downstream end of perched culverts # 3 and 4	270	D-03-067_P6180007
D-03-068	Looking upstream from bridge crossing	200	D-03-068_P6180008
D-03-068	Looking downstream from bridge crossing	90	D-03-068_P6180009
D-03-068	Looking upstream at downstream end of bridge	200	D-03-068_P6180010
D-03-069	Looking upstream from bridge crossing	300	D-03-069_P6180011
D-03-069	Looking downstream from bridge crossing	140	D-03-069_P6180012
D-03-070	Looking upstream from culvert crossing	0	D-03-070_P6230001
D-03-070	Looking downstream from culvert crossing	180	D-03-070_P6230002
D-03-070	Looking upstream at downstream end of culverts	30	D-03-070_P6230003
D-03-071	Looking upstream from culvert crossing	350	D-03-071_P6230004
D-03-071	Looking downstream from culvert crossing	180	D-03-071_P6230005
D-03-071	Looking southeast at upstream end of culverts	100	D-03-071_P6230006
D-03-071	Looking northeast at downstream end of culverts	40	D-03-071_P6230007
D-03-072	Looking upstream from bridge crossing	0	D-03-072_P6230008
D-03-072	Looking downstream from bridge crossing	180	D-03-072_P6230009
D-03-072	Looking southeast at upstream end of bridge	135	D-03-072_P6230010
D-03-073	Looking upstream from culvert crossing	270	D-03-073_P6230011
D-03-073	Looking downstream from culvert crossing	90	D-03-073_P6230012
D-03-073	Looking west at downstream end of perched culverts	270	D-03-073_P6230013
D-03-074	Looking upstream from bridge crossing	300	D-03-074_P6240001
D-03-074	Looking downstream from bridge crossing	180	D-03-074_P6240002
D-03-075	Looking upstream from bridge crossing	250	D-03-075_P6240003
D-03-075	Looking downstream from bridge crossing	90	D-03-075_P6240004
D-03-076	Looking upstream from culvert crossing	270	D-03-076_P6240005
D-03-076	Looking downstream from culvert crossing	90	D-03-076_P6240006
D-03-077	Looking upstream from culvert crossing	300	D-03-077_P6240007

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-03-077	Looking downstream from culvert crossing	120	D-03-077_P6240008
D-03-077	Looking west at downstream end of culverts	270	D-03-077_P6240009
D-03-078	Looking upstream from culvert crossing	170	D-03-078_P6240010
D-03-078	Looking downstream from culvert crossing	0	D-03-078_P6240011
D-03-079	Looking upstream from culvert crossing	270	D-03-079_P6240012
D-03-079	Looking downstream from culvert crossing	90	D-03-079_P6240013
D-03-080	Looking upstream from culvert crossing	100	D-03-080_P6240014
D-03-080	Looking downstream from culvert crossing	270	D-03-080_P6240015
D-03-081	Looking upstream from bridge crossing	210	D-03-081_P6240016
D-03-081	Looking downstream from bridge crossing	30	D-03-081_P6240017
D-03-082	Looking upstream from bridge crossing	140	D-03-082_P6240018
D-03-082	Looking downstream from bridge crossing	215	D-03-082_P6240019
D-03-083	Looking upstream from bridge crossing	180	D-03-083_P6260005
D-03-083	Looking downstream from bridge crossing	45	D-03-083_P6260006
D-03-084	Looking upstream from 10 m from top of reach	200	D-03-084_P6260001
D-03-084	Looking downstream from silt fences	25	D-03-084_P6260002
D-03-084	Looking west at silt fences	270	D-03-084_P6260003
D-03-084	Looking downstream from mid-reach	360	D-03-084_P6260004
D-03-085	Looking upstream from bridge crossing	300	D-03-085_P6270001
D-03-085	Looking downstream from bridge crossing	90	D-03-085_P6270002
D-03-086	Looking upstream from bridge crossing	190	D-03-086_P6270003
D-03-086	Looking downstream from bridge crossing	10	D-03-086_P6270004
D-03-086	Looking north at cows instream	0	D-03-086_P6270005
D-03-087	Looking upstream from bridge crossing	270	D-03-087_P6270006
D-03-087	Looking downstream from bridge crossing	90	D-03-087_P6270007
D-03-088	Looking upstream from bridge crossing	0	D-03-088_P7020001
D-03-088	Looking downstream from bridge crossing	180	D-03-088_P7020002
D-03-089	Looking upstream from bridge crossing	180	D-03-089_P7020003
D-03-089	Looking downstream from bridge crossing	0	D-03-089_P7020004
D-03-090	Looking south at Pleasant Valley Lake water control structure	180	D-03-090_P7020005
D-03-090	Looking downstream from dam	50	D-03-090_P7020006
D-03-091	Looking upstream from bridge crossing	180	D-03-091_P7030001
D-03-091	Looking downstream from bridge crossing	0	D-03-091_P7030002

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-03-092	Looking upstream from culvert crossing	270	D-03-092_P7030003
D-03-092	Looking downstream from culvert crossing	30	D-03-092_P7030004
D-03-093	Looking upstream from culvert crossing	0	D-03-093_P7030005
D-03-093	Looking downstream from culvert crossing	135	D-03-093_P7030006
D-03-094	Looking upstream from culvert crossing	260	D-03-094_P7080001
D-03-094	Looking downstream from culvert crossing	80	D-03-094_P7080002
D-03-094	Looking north at beaver dam at upstream end of culvert	0	D-03-094_P7080003
D-03-095	Looking upstream from culvert crossing	255	D-03-095_P7080004
D-03-095	Looking downstream from culvert crossing	100	D-03-095_P7080005
D-03-096	Looking upstream from culvert crossing	280	D-03-096_P7080006
D-03-096	Looking downstream from culvert crossing	125	D-03-096_P7080007
D-03-097	Looking upstream from ford crossing	0	D-03-097_P7090001
D-03-097	Looking downstream from ford crossing	200	D-03-097_P7090002
D-03-097	Looking southeast at upstream end of culverts	150	D-03-097_P7090003
D-03-097	Looking northeast at downstream end of culverts	45	D-03-097_P7090004
D-03-098	Looking upstream from culvert crossing	280	D-03-098_P7090005
D-03-098	Looking downstream from culvert crossing	120	D-03-098_P7090006
D-03-099	Looking upstream from culvert crossing	190	D-03-099_P7090007
D-03-099	Looking downstream from culvert crossing	10	D-03-099_P7090008
D-03-100	Looking upstream from culvert crossing	240	D-03-100_P7090009
D-03-100	Looking downstream from culvert crossing	45	D-03-100_P7090010
D-03-101	Looking upstream from culvert crossing	50	D-03-101_P7090011
D-03-101	Looking downstream from culvert crossing	180	D-03-101_P7090012
D-03-101	Looking northeast at culvert perched 0.2 m	45	D-03-101_P7090013
D-03-102	Looking upstream from culvert crossing	220	D-03-102_P7110001
D-03-102	Looking downstream from culvert crossing	0	D-03-102_P7110002
D-03-103	Looking upstream from culvert crossing	260	D-03-103_P7110003
D-03-103	Looking downstream from weir	90	D-03-103_P7110004
D-03-103	Looking downstream from culvert crossing	0	D-03-103_P7110005
D-03-103	Looking west of sheet pile weir and upstream	270	D-03-103_P7110006
D-03-103	Looking downstream (east) at upstream end of culvert and weir	90	D-03-103_P7110007
D-03-104	Looking upstream from culvert crossing	180	D-03-104_P7110008
D-03-104	Looking downstream from culvert crossing	0	D-03-104_P7110009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-03-104	Looking south at downstream end of culvert	180	D-03-104_P7110010
D-03-105	Looking upstream from culvert crossing	245	D-03-105_P7110011
D-03-105	Looking downstream from culvert crossing	0	D-03-105_P7110012
D-03-106	Looking upstream from bridge crossing	345	D-03-106_P7140001
D-03-106	Looking downstream from bridge crossing	150	D-03-106_P7140002
D-03-107	Looking upstream from bridge crossing	180	D-03-107_P7140003
D-03-107	Looking downstream from bridge crossing	310	D-03-107_P7140004
D-03-108	Looking upstream from bridge crossing	0	D-03-108_P7140005
D-03-108	Looking downstream from bridge crossing	160	D-03-108_P7140006
D-03-109	Looking upstream from culvert crossing	270	D-03-109_P7140007
D-03-109	Looking downstream from culvert crossing	90	D-03-109_P7140008
D-03-110	Looking upstream from culvert crossing	270	D-03-110_P7140009
D-03-110	Looking downstream from culvert crossing	60	D-03-110_P7140010
D-03-110	Looking upstream at downstream end of culverts	300	D-03-110_P7140011
D-03-111	Looking upstream from culvert crossing	0	D-03-111_P7140012
D-03-111	Looking downstream from culvert crossing	180	D-03-111_P7140013
D-03-112	Looking upstream from culvert crossing	270	D-03-112_P7150001
D-03-112	Looking downstream from culvert crossing	90	D-03-112_P7150002
D-03-113	Looking upstream from culvert crossing	270	D-03-113_P7150003
D-03-113	Looking downstream from culvert crossing	90	D-03-113_P7150004
D-03-114	Looking upstream from culvert crossing	300	D-03-114_P7150005
D-03-114	Looking downstream from culvert crossing	130	D-03-114_P7150006
D-03-115	Looking upstream from culvert crossing	0	D-03-115_P7150007
D-03-115	Looking downstream from culvert crossing	185	D-03-115_P7150008
D-03-116	Looking upstream from culvert crossing	300	D-03-116_P7150009
D-03-116	Looking upstream from culvert crossing	260	D-03-116_P7150010
D-03-116	Looking downstream from culvert crossing	140	D-03-116_P7150011
D-03-117	Looking upstream from culvert crossing	290	D-03-117_P7150012
D-03-117	Looking downstream from culvert crossing	90	D-03-117_P7150013
D-03-118	Looking upstream from culvert crossing	0	D-03-118_P7150014
D-03-118	Looking downstream from culvert crossing	260	D-03-118_P7150015
D-03-119	Looking upstream from culvert crossing	270	D-03-119_P7150016
D-03-119	Looking downstream from culvert crossing	90	D-03-119_P7150017

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-03-120	Looking upstream from bridge crossing	270	D-03-120_P7150018
D-03-120	Looking downstream from bridge crossing	150	D-03-120_P7150019
D-03-121	Looking upstream from PTH 5 culvert crossing	270	D-03-121_P7160001
D-03-121	Looking downstream from PTH 5 culvert crossing	90	D-03-121_P7160002
D-03-121	Looking north at downstream end of perched culvert	350	D-03-121_P7160003
D-03-121	Looking west at sediment trap 200 m upstream from crossing	270	D-03-121_P7160004
D-03-121	Looking downstream at outside bend of creek 200 m above crossing	110	D-03-121_P7160005
D-03-122	Looking upstream from bridge crossing	190	D-03-122_P7160006
D-03-122	Looking downstream from bridge crossing	20	D-03-122_P7160007
D-03-123	Looking upstream from culvert crossing	180	D-03-123_P7160008
D-03-123	Looking downstream from culvert crossing	0	D-03-123_P7160009
D-03-124	Looking upstream from culvert crossing	180	D-03-124_P7160010
D-03-124	Looking downstream from culvert crossing	0	D-03-124_P7160011
D-03-125	Looking upstream from bridge crossing	350	D-03-125_P7160012
D-03-125	Looking downstream from bridge crossing	170	D-03-125_P7160013
D-03-125	Looking west up Glencairn Drain	270	D-03-125_P7160014
D-03-126	Looking upstream from culvert crossing	270	D-03-126_P7170001
D-03-126	Looking downstream from culvert crossing	90	D-03-126_P7170002
D-03-126	Looking upstream at Kinch Creek	180	D-03-126_P7170003
D-03-127	Looking upstream from bridge crossing	270	D-03-127_P7170004
D-03-127	Looking downstream from bridge crossing	90	D-03-127_P7170005
D-03-128	Looking upstream from culvert crossing	0	D-03-128_P7170006
D-03-128	Looking downstream from culvert crossing	180	D-03-128_P7170007
D-03-129	Looking upstream from culvert crossing	0	D-03-129_P7170008
D-03-129	Looking downstream from culvert crossing	270	D-03-129_P7170009
D-03-130	Looking upstream from culvert crossing	330	D-03-130_P7170010
D-03-130	Looking downstream from culvert crossing	150	D-03-130_P7170011
D-03-131	Looking upstream from bridge crossing	190	D-03-131_P7170012
D-03-131	Looking downstream from bridge crossing	45	D-03-131_P7170013
D-03-132	Looking upstream from culvert crossing	270	D-03-132_P7170014
D-03-132	Looking downstream from culvert crossing	45	D-03-132_P7170015
D-03-132	Looking west at downstream end of culverts	270	D-03-132_P7170016
D-03-132	Close up of dead fish accumulated at downstream end of culvert	N/A	D-03-132_P7170017

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-03-133	Looking upstream from bridge crossing	0	D-03-133_P7170018
D-03-133	Looking downstream from bridge crossing	180	D-03-133_P7170019
D-03-133	Looking west up Correction Line Drain	270	D-03-133_P7170020
D-03-134	Looking upstream from culvert crossing	270	D-03-134_P7170021
D-03-134	Looking downstream from culvert crossing	90	D-03-134_P7170022
D-03-135	Looking upstream from culvert crossing	180	D-03-135_P7180001
D-03-135	Looking downstream from culvert crossing	0	D-03-135_P7180002
D-03-135	Looking south at downstream end of culvert	180	D-03-135_P7180003
D-03-136	Looking upstream from culvert crossing	210	D-03-136_P7180004
D-03-136	Looking downstream from culvert crossing	90	D-03-136_P7180005
D-03-137	Looking upstream from ford crossing	270	D-03-137_P7180006
D-03-137	Looking downstream from ford crossing	125	D-03-137_P7180007
D-03-138	Looking upstream on Pelican Creek from culvert crossing	180	D-03-138_P7180008
D-03-138	Looking downstream on Pelican Creek from culvert crossing	90	D-03-138_P7180009
D-03-138	Looking upstream from above confluence with Pelican Ck.	220	D-03-138_P7180010
D-03-139	Looking upstream from culvert crossing	270	D-03-139_P7180011
D-03-139	Looking downstream from culvert crossing	90	D-03-139_P7180012
D-03-140	Looking upstream from bridge crossing	270	D-03-140_P7210001
D-03-140	Looking downstream from bridge crossing	90	D-03-140_P7210002
D-03-141	Looking upstream from culvert crossing	180	D-03-141_P7220003
D-03-141	Looking downstream from culvert crossing	0	D-03-141_P7220004
D-03-142	Looking upstream from gravel ford crossing	290	D-03-142_P7220005
D-03-142	Looking downstream from gravel ford crossing	90	D-03-142_P7220006
D-03-143	Looking upstream from bridge crossing	270	D-03-143_P7220007
D-03-143	Looking downstream from bridge crossing	90	D-03-143_P7220008
D-03-144	Looking upstream at wooden box culverts from 10 m downstream	240	D-03-144_P7220009
D-03-144	Looking upstream from PTH 10	250	D-03-144_P7220010
D-03-144	Looking downstream from PTH 10	70	D-03-144_P7220011
D-03-145	Looking upstream from PTH 10	270	D-03-145_P7220012
D-03-145	Looking downstream from PTH 10	100	D-03-145_P7220013
D-03-146	Looking upstream from culvert crossing	0	D-03-146_P7220014
D-03-146	Looking downstream from culvert crossing	180	D-03-146_P7220015
D-03-147	Looking upstream from culvert crossing	270	D-03-147_P7230001

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-03-147	Looking downstream from culvert crossing	90	D-03-147_P7230002
D-03-148	Looking upstream from culvert crossing	0	D-03-148_P7230003
D-03-148	Looking downstream from culvert crossing	180	D-03-148_P7230004
D-03-149	Looking upstream from culvert crossing	310	D-03-149_P7230005
D-03-149	Looking downstream from culvert crossing	120	D-03-149_P7230006
D-03-150	Looking upstream from culvert crossing	260	D-03-150_P7230007
D-03-150	Looking downstream from culvert crossing	80	D-03-150_P7230008
D-03-151	Looking upstream from culvert crossing	0	D-03-151_P7230009
D-03-151	Looking downstream from culvert crossing	180	D-03-151_P7230010
D-03-152	Looking upstream from bridge crossing	270	D-03-152_P7230011
D-03-152	Looking downstream from bridge crossing	90	D-03-152_P7230012
D-03-153	Looking upstream from culvert crossing	140	D-03-153_P7230013
D-03-153	Looking downstream from culvert crossing	90	D-03-153_P7230014
D-03-154	Looking upstream from PTH 10	220	D-03-154_P7230015
D-03-154	Looking downstream from PTH 10	30	D-03-154_P7230016
D-03-155	Looking upstream from bridge crossing	250	D-03-155_P7230017
D-03-155	Looking downstream from bridge crossing	70	D-03-155_P7230018
D-03-156	Looking upstream from PTH 10	280	D-03-156_P7230019
D-03-156	Looking downstream from PTH 10	90	D-03-156_P7230020
D-03-157	Looking upstream from bridge crossing	260	D-03-157_P7240001
D-03-157	Looking downstream from bridge crossing	80	D-03-157_P7240002
D-03-158	Looking upstream from PTH 10	250	D-03-158_P7240003
D-03-158	Looking downstream from PTH 10	30	D-03-158_P7240004
D-03-159	Looking upstream from culvert crossing	0	D-03-159_P7240005
D-03-159	Looking west at flow from beaver pond	300	D-03-159_P7240006
D-03-159	Looking downstream from culvert crossing	180	D-03-159_P7240007
D-03-160	Looking upstream from culvert crossing	270	D-03-160_P7240008
D-03-160	Looking downstream from culvert crossing	90	D-03-160_P7240009
D-03-161	Looking upstream from culvert crossing	270	D-03-161_P7240010
D-03-161	Looking downstream from culvert crossing	90	D-03-161_P7240011
D-03-162	Looking upstream from culvert crossing	270	D-03-162_P7240012
D-03-162	Looking downstream from culvert crossing	90	D-03-162_P7240013
D-03-163	Looking upstream from culvert crossing	270	D-03-163_P7240014

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-03-163	Looking downstream from culvert crossing	90	D-03-163_P7240015
D-03-164	Looking upstream from bridge crossing	270	D-03-164_P7240016
D-03-164	Looking downstream from bridge crossing	90	D-03-164_P7240017
D-03-165	Looking upstream from PR 266 culvert crossing	270	D-03-165_P7240018
D-03-165	Looking downstream from PR 266 culvert crossing	90	D-03-165_P7240019
D-03-166	Looking upstream from culvert crossing	270	D-03-166_P7240020
D-03-166	Looking downstream from culvert crossing	90	D-03-166_P7240021
D-03-166	Looking west at perched culvert	N/A	D-03-166_P7240022
D-03-167	Looking upstream from PTH 10	240	D-03-167_P7250001
D-03-167	Looking downstream from PTH 10	100	D-03-167_P7250002
W-03-001	Electrofishing crew	270	W-03-001_D1_001
W-03-001	Looking upstream 60 m north (downstream) from PR 317	90	W-03-001_D1_002
W-03-001	Looking downstream 60 m north from PR 317	270	W-03-001_D1_003
W-03-002	Looking upstream 20 m downstream from culvert	270	W-03-002_D1_021
W-03-002	Looking upstream from culvert	270	W-03-002_D1_022
W-03-002	Looking downstream from culvert	90	W-03-002_D1_023
W-03-002	Looking downstream after bend	360	W-03-002_D1_024
W-03-003	Looking upstream from gravel road at top of reach	180	W-03-003_D1_004
W-03-003	Looking upstream (small tributary from west)	270	W-03-003_D1_005
W-03-003	Looking upstream at culvert from mid-reach	180	W-03-003_D1_006
W-03-003	Looking downstream from mid-reach at PTH 11 culverts	90	W-03-003_D1_007
W-03-003	Looking downstream from PTH 11	90	W-03-003_D1_008
W-03-003	Looking downstream from PTH 11	90	W-03-003_D1_009
W-03-003	Looking downstream through reach	360	W-03-003_D1_010
W-03-004	Looking upstream from culvert going west PTH 11	270	W-03-004_D1_011
W-03-004	Looking upstream towards other culvert	270	W-03-004_D1_012
W-03-004	Looking downstream from culvert going east PTH 11	180	W-03-004_D1_013
W-03-005	Looking upstream from culvert	210	W-03-005_D1_014
W-03-005	Looking downstream from culvert	0	W-03-005_D1_015
W-03-006	Looking upstream from crossing	150	W-03-006_D1_016
W-03-006	Looking downstream from crossing	300	W-03-006_D1_017
W-03-006	Looking downstream at crossing	270	W-03-006_D1_018
W-03-007	Looking upstream from PTH 11	220	W-03-007_D1_019

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-007	Looking downstream from PTH 11	330	W-03-007_D1_020
W-03-008	Looking upstream from culverts (west)	270	W-03-008_D1_025
W-03-008	Looking downstream from culverts (east)	90	W-03-008_D1_026
W-03-009	Looking upstream from crossing	270	W-03-009_D1_027
W-03-009	Looking downstream from crossing	150	W-03-009_D1_028
W-03-009	Looking upstream at culvert	270	W-03-009_D1_029
W-03-010	Looking upstream from culvert	270	W-03-010_D1_030
W-03-010	Looking downstream from culvert	90	W-03-010_D1_031
W-03-010	Looking downstream from culvert	90	W-03-010_D1_032
W-03-011	Looking upstream west of culvert	270	W-03-011_D1_033
W-03-011	Looking downstream east of culvert	90	W-03-011_D1_034
W-03-012	Looking upstream from gravel road	360	W-03-012_D1_035
W-03-013	Looking upstream from culverts (east)	90	W-03-013_D1_036
W-03-013	Looking downstream from culverts (west)	270	W-03-013_D1_037
W-03-013	Looking downstream from culverts to bridge	270	W-03-013_D1_038
W-03-013	Looking upstream at east side of perched culverts	90	W-03-013_D1_039
W-03-014	Looking upstream from crossing	360	W-03-014_D1_040
W-03-014	Looking downstream from crossing	180	W-03-014_D1_041
W-03-015	Looking upstream from crossing	320	W-03-015_D1_042
W-03-015	Looking downstream from crossing	95	W-03-015_D1_043
W-03-015	Looking downstream from crossing	95	W-03-015_D1_044
W-03-016	Looking upstream from crossing	315	W-03-016_D1_045
W-03-016	Looking downstream from crossing	100	W-03-016_D1_046
W-03-016	Looking downstream at culverts	160	W-03-016_D1_047
W-03-017	Looking upstream from reach	270	W-03-017_D1_048
W-03-017	Looking downstream from reach	90	W-03-017_D1_049
W-03-017	Looking south at bend downstream	180	W-03-017_D1_050
W-03-017	Looking south of road at Manitoba Hydro plant	180	W-03-017_D1_051
W-03-017	Looking south of road at Manitoba Hydro plant	180	W-03-017_D1_052
W-03-017	Looking south of road at Manitoba Hydro plant	180	W-03-017_D1_053
W-03-017	Looking north of road at Manitoba Hydro plant	360	W-03-017_D1_054
W-03-017	Looking north of road at Manitoba Hydro plant	360	W-03-017_D1_055
W-03-017	Looking north of road at Manitoba Hydro plant	360	W-03-017_D1_056

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-018	Looking upstream from culverts at reach	360	W-03-018_D1_057
W-03-018	Looking downstream from culverts	155	W-03-018_D1_058
W-03-019	Looking upstream from 20m downstream of crossing	0	W-03-019_D1_059
W-03-019	Looking upstream from crossing	0	W-03-019_D1_060
W-03-019	Looking downstream from crossing	180	W-03-019_D1_061
W-03-020	Looking upstream from crossing	315	W-03-020_D1_062
W-03-020	Looking downstream from crossing	105	W-03-020_D1_063
W-03-021	Looking upstream at culverts	270	W-03-021_D1_064
W-03-021	Looking downstream at culverts	90	W-03-021_D1_065
W-03-022	Looking upstream at Sturgeon Creek	315	W-03-022_D1_066
W-03-022	Looking downstream at Sturgeon Creek	180	W-03-022_D1_067
W-03-022	Looking upstream at culverts from Old Sturgeon Creek	30	W-03-022_D1_068
W-03-022	Looking upstream at Sturgeon Creek	30	W-03-022_D1_069
W-03-023	Looking upstream at confluence of Sturgeon Creek and 2nd order drain	270	W-03-023_D1_070
W-03-023	Looking upstream at gated culverts	270	W-03-023_D1_071
W-03-024	Looking upstream at Meridian Drain	0	W-03-024_D1_072
W-03-025	Looking upstream at 2nd order drain from crossing	320	W-03-025_D1_073
W-03-025	Looking upstream at Meridian Drain	360	W-03-025_D1_074
W-03-025	Looking downstream at Meridian Drain	135	W-03-025_D1_075
W-03-026	Looking upstream from crossing	315	W-03-026_D1_076
W-03-026	Looking downstream from crossing	155	W-03-026_D1_077
W-03-026	Photo of Ashley & Julie stuck in the gumbo	N/A	W-03-026_D1_078
W-03-026	Looking downstream 5m east of crossing	180	W-03-026_D1_079
W-03-027	Looking upstream from crossing	270	W-03-027_D1_080
W-03-027	Looking downstream from crossing	90	W-03-027_D1_081
W-03-027	Looking upstream at culverts 20m back	270	W-03-027_D1_082
W-03-028	Looking upstream from crossing	315	W-03-028_D1_083
W-03-028	Looking downstream from crossing	140	W-03-028_D1_084
W-03-028	Looking at incoming drain	270	W-03-028_D1_085
W-03-029	Looking upstream at junction of streams	345	W-03-029_D1_086
W-03-029	Looking downstream at junction of 2nd order streams	90	W-03-029_D1_087
W-03-030	Looking upstream from crossing	0	W-03-030_D1_088
W-03-030	Looking downstream from crossing	180	W-03-030_D1_089

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-031	Looking downstream from crossing	140	W-03-031_D1_090
W-03-031	Looking upstream from crossing	340	W-03-031_D1_091
W-03-031	Looking at incoming drain upstream from crossing	360	W-03-031_D1_092
W-03-031	Looking downstream at junction of 2nd order and 3rd order drains	180	W-03-031_D1_093
W-03-032	Looking upstream from crossing	0	W-03-032_D1_094
W-03-032	Looking downstream from crossing	180	W-03-032_D1_095
W-03-033	Looking upstream from crossing	360	W-03-033_D1_096
W-03-033	Looking upstream from crossing	360	W-03-033_D1_097
W-03-033	Looking downstream from crossing	180	W-03-033_D1_098
W-03-034	Looking upstream from crossing	90	W-03-034_D1_099
W-03-034	Looking downstream from crossing	270	W-03-034_D1_100
W-03-034	Looking upstream at cement culverts	90	W-03-034_D1_101
W-03-034	Looking downstream from PTH 6	270	W-03-034_D1_102
W-03-035	Looking upstream at culverts from crossing	0	W-03-035_D1_103
W-03-035	Looking downstream from crossing	180	W-03-035_D1_104
W-03-036	Looking upstream from crossing	270	W-03-036_D1_105
W-03-036	Looking downstream from crossing	90	W-03-036_D1_106
W-03-037	Looking upstream from crossing	180	W-03-037_D1_107
W-03-037	Looking downstream from crossing	30	W-03-037_D1_108
W-03-038	Looking upstream from crossing	170	W-03-038_D1_109
W-03-038	Looking downstream from crossing	350	W-03-038_D1_110
W-03-039	Looking upstream from crossing	270	W-03-039_D1_111
W-03-039	Looking downstream from crossing	90	W-03-039_D1_112
W-03-040	Looking upstream from crossing	90	W-03-040_D1_113
W-03-040	Looking downstream from crossing	270	W-03-040_D1_114
W-03-041	Looking upstream from crossing	360	W-03-041_D1_115
W-03-041	Looking downstream from crossing	180	W-03-041_D1_116
W-03-042	Looking upstream from crossing	330	W-03-042_D1_117
W-03-042	Looking downstream from crossing	165	W-03-042_D1_118
W-03-043	Looking upstream from crossing	360	W-03-043_D1_119
W-03-043	Looking downstream from crossing	180	W-03-043_D1_120
W-03-044	Looking upstream from PR 245	120	W-03-044_D1_121
W-03-044	Looking downstream from top of culvert	350	W-03-044_D1_122

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-044	Looking further downstream from top of culvert	350	W-03-044_D1_123
W-03-044	Looking upstream 10m south of downstream culvert	120	W-03-044_D1_124
W-03-045	Looking upstream from crossing	0	W-03-045_D1_125
W-03-045	Looking upstream 10m back from culvert	270	W-03-045_D1_126
W-03-045	Looking downstream at culvert	90	W-03-045_D1_127
W-03-046	Looking upstream from PR 240	45	W-03-046_D1_128
W-03-046	Looking downstream from PR 240	180	W-03-046_D1_129
W-03-046	Looking further downstream from PR 240	180	W-03-046_D1_130
W-03-047	Looking upstream from crossing	0	W-03-047_D1_131
W-03-047	Looking downstream from culverts	120	W-03-047_D1_132
W-03-048	Looking upstream from crossing	0	W-03-048_D1_133
W-03-048	Looking downstream from crossing	90	W-03-048_D1_134
W-03-049	Looking upstream at Roseisle Drain 50m south of Roseisle Creek	180	W-03-049_D1_135
W-03-049	Looking downstream at Roseisle Drain 50m south of Roseisle Creek	0	W-03-049_D1_136
W-03-049	Looking upstream 100m from creek at weir	180	W-03-049_D1_137
W-03-049	Looking downstream at Roseisle Creek	50	W-03-049_D1_138
W-03-049	Looking upstream at Roseisle Creek	300	W-03-049_D1_139
W-03-050	Looking upstream at bridge	270	W-03-050_D1_140
W-03-050	Looking downstream at bridge	90	W-03-050_D1_141
W-03-050	Looking upstream 300m downstream from bridge	270	W-03-050_D1_142
W-03-051	Looking upstream of 2nd order drain	220	W-03-051_D1_143
W-03-051	Looking downstream at confluence of 2nd order with Boyne River	80	W-03-051_D1_144
W-03-051	Looking upstream Boyne River 20m downstream of junction	320	W-03-051_D1_145
W-03-051	Looking downstream Boyne River upstream from culvert at junction	100	W-03-051_D1_146
W-03-052	Looking upstream from PR 240	270	W-03-052_D1_147
W-03-052	Looking downstream from PR 240	90	W-03-052_D1_148
W-03-053	Looking upstream from crossing	270	W-03-053_D1_149
W-03-053	Looking downstream from crossing	90	W-03-053_D1_150
W-03-054	Looking upstream from crossing	270	W-03-054_D1_151
W-03-054	Looking upstream from crossing	270	W-03-054_D1_152
W-03-054	Looking upstream from crossing	270	W-03-054_D1_153
W-03-054	Looking downstream from crossing	90	W-03-054_D1_154
W-03-054	Looking downstream from crossing	90	W-03-054_D1_155

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-054	Looking downstream from crossing	105	W-03-054_D1_156
W-03-055	Looking upstream from crossing	270	W-03-055_D1_157
W-03-055	Looking downstream from crossing	90	W-03-055_D1_158
W-03-056	Looking upstream 2m south of culvert from crossing	345	W-03-056_D1_159
W-03-056	Looking downstream 2m north of culvert from crossing	155	W-03-056_D1_160
W-03-057	Looking upstream from crossing	270	W-03-057_D1_161
W-03-057	Looking upstream 20m south of culverts	270	W-03-057_D1_162
W-03-057	Looking downstream from crossing	90	W-03-057_D1_163
W-03-057	Looking at dredged matter	120	W-03-057_D1_164
W-03-058	Looking upstream from crossing	180	W-03-058_D1_165
W-03-058	Looking downstream from crossing	0	W-03-058_D1_166
W-03-059	Looking upstream from crossing	210	W-03-059_D1_167
W-03-059	Looking downstream from crossing	0	W-03-059_D1_168
W-03-059	Looking at dead wood	180	W-03-059_D1_169
W-03-060	Looking upstream from crossing	190	W-03-060_D1_170
W-03-060	Looking downstream from crossing	45	W-03-060_D1_171
W-03-061	Looking downstream from culvert (backwards from regular order)	0	W-03-061_D1_172
W-03-061	Looking downstream from PTH 2	0	W-03-061_D1_173
W-03-061	Looking upstream from culvert	100	W-03-061_D1_174
W-03-061	Looking upstream from PTH 2	180	W-03-061_D1_175
W-03-062	Looking downstream from PTH 2	0	W-03-062_D1_176
W-03-062	Looking upstream from PTH 2, 20 m back from culvert	180	W-03-062_D1_177
W-03-062	Looking downstream from culvert	0	W-03-062_D1_178
W-03-063	Looking upstream from culvert	180	W-03-063_D1_179
W-03-063	Looking downstream from culvert	0	W-03-063_D1_180
W-03-064	Looking upstream from crossing	180	W-03-064_D1_181
W-03-064	Looking downstream from crossing	0	W-03-064_D1_182
W-03-064	Looking downstream from crossing at woody debris	43	W-03-064_D1_183
W-03-065	Looking upstream from middle of culvert	230	W-03-065_D1_184
W-03-065	Looking upstream between culverts	190	W-03-065_D1_185
W-03-065	Looking upstream from 5 m back of east culvert	230	W-03-065_D1_186
W-03-065	Looking downstream from east culvert	20	W-03-065_D1_187
W-03-065	Looking downstream from west culvert	70	W-03-065_D1_188

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-065	Photo of scenery along PR 242	270	W-03-065_D1_189
W-03-066	Looking upstream 5m west of upstream culvert	110	W-03-066_D1_190
W-03-066	Looking upstream from top of culvert at culvert	110	W-03-066_D1_191
W-03-066	Looking at culvert 10m upstream	300	W-03-066_D1_192
W-03-066	Looking downstream from culverts	110	W-03-066_D1_193
W-03-066	Photo of scenic landscape	N/A	W-03-066_D1_194
W-03-066	Photo of scenic landscape	N/A	W-03-066_D1_195
W-03-066	Photo of scenic landscape	N/A	W-03-066_D1_196
W-03-066	Photo of scenic landscape	N/A	W-03-066_D1_197
W-03-066	Photo of scenic landscape	N/A	W-03-066_D1_198
W-03-066	Photo of scenic landscape	N/A	W-03-066_D1_199
W-03-067	Looking upstream from crossing	180	W-03-067_D1_200
W-03-067	Looking downstream from crossing at fisheries officers	345	W-03-067_D1_201
W-03-067	Looking downstream from cement crossing	0	W-03-067_D1_202
W-03-068	Looking upstream from PTH 23	180	W-03-068_D1_203
W-03-068	Looking downstream from PTH 23	0	W-03-068_D1_204
W-03-071	Looking upstream from crossing at culverts & PTH 12	145	W-03-071_D1_205
W-03-071	Looking downstream from crossing	250	W-03-071_D1_206
W-03-072	Looking upstream at 2nd order from crossing	0	W-03-072_D1_207
W-03-072	Looking upstream Fish Creek from bridge	90	W-03-072_D1_208
W-03-072	Looking downstream Fish Creek from bridge	270	W-03-072_D1_209
W-03-073	Looking upstream Seine River from crossing	110	W-03-073_D1_210
W-03-073	Looking downstream Seine River from crossing	270	W-03-073_D1_211
W-03-074	Looking upstream from crossing	135	W-03-074_D1_212
W-03-074	Looking downstream from crossing	300	W-03-074_D1_213
W-03-075	Looking upstream from culvert	140	W-03-075_D1_214
W-03-075	Looking downstream from culvert	0	W-03-075_D1_215
W-03-076	Looking upstream from crossing	80	W-03-076_D1_216
W-03-076	Looking downstream from crossing	270	W-03-076_D1_217
W-03-076	Looking downstream 10m upstream from culverts	270	W-03-076_D1_218
W-03-077	Looking upstream from bridge	90	W-03-077_D1_219
W-03-077	Looking downstream from bridge	270	W-03-077_D1_220
W-03-077	Looking downstream from bridge	270	W-03-077_D1_221

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-078	Looking upstream from bridge	90	W-03-078_D1_222
W-03-078	Looking downstream from bridge	270	W-03-078_D1_223
W-03-079	Looking upstream from bridge	140	W-03-079_D1_224
W-03-079	Looking downstream from bridge	360	W-03-079_D1_225
W-03-080	Looking upstream from Pine Drive crossing	180	W-03-080_D1_226
W-03-080	Looking downstream from culvert from PR 210	90	W-03-080_D1_227
W-03-081	Looking upstream from crossing	90	W-03-081_D1_228
W-03-081	Looking downstream from crossing	260	W-03-081_D1_229
W-03-082	Looking upstream from bridge	90	W-03-082_D1_230
W-03-082	Looking south at gated culvert from bridge	180	W-03-082_D1_231
W-03-082	Looking downstream from bridge	290	W-03-082_D1_232
W-03-083	Looking upstream from crossing	90	W-03-083_D1_233
W-03-083	Looking downstream from crossing	270	W-03-083_D1_234
W-03-084	Looking upstream from culverts	160	W-03-084_D1_235
W-03-084	Looking downstream from culvers	270	W-03-084_D1_236
W-03-085	Looking upstream from dike of unnamed 3rd order	180	W-03-085_D1_237
W-03-085	Looking upstream from bridge of D-20 Drain	90	W-03-085_D1_238
W-03-085	Looking downstream from bridge of D-20 Drain	270	W-03-085_D1_239
W-03-086	Looking upstream from road of unnamed 3rd order drain	180	W-03-086_D1_240
W-03-086	Looking upstream of D-20 Drain	90	W-03-086_D1_241
W-03-086	Looking downstream of D-20 Drain	270	W-03-086_D1_242
W-03-087	Looking upstream from crossing	180	W-03-087_D1_243
W-03-087	Looking downstream from crossing	360	W-03-087_D1_244
W-03-088	Looking upstream from PR 205	125	W-03-088_D1_245
W-03-088	Looking at pool	310	W-03-088_D1_246
W-03-088	Looking downstream from PR 205	360	W-03-088_D1_247
W-03-089	Looking upstream Carey Drain from crossing	120	W-03-089_D1_248
W-03-089	Looking upstream unnamed 2nd order drain from crossing	90	W-03-089_D1_249
W-03-089	Looking downstream Carey Drain from crossing	0	W-03-089_D1_250
W-03-090	Looking upstream Otterburne East Drain from PTH 59	95	W-03-090_D1_251
W-03-090	Looking upstream unnamed 2nd order drain from Gagnon Road	0	W-03-090_D1_252
W-03-090	Looking downstream Otterburne East Drain from PTH 59	270	W-03-090_D1_253
W-03-091	Looking upstream from crossing	155	W-03-091_D1_254

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-091	Looking downstream from crossing	300	W-03-091_D1_255
W-03-092	Looking upstream from crossing	75	W-03-092_D1_256
W-03-092	Looking downstream from crossing	300	W-03-092_D1_257
W-03-092	Looking downstream from culverts 10m upstream	300	W-03-092_D1_258
W-03-093	Looking upstream from PTH 12	90	W-03-093_D1_259
W-03-093	Looking downstream from PTH 12	270	W-03-093_D1_260
W-03-094	Looking upstream from crossing	270	W-03-094_D1_261
W-03-094	Looking downstream from crossing	340	W-03-094_D1_262
W-03-095	Looking upstream from PTH 44	180	W-03-095_D1_263
W-03-095	Looking downstream from PTH 44	360	W-03-095_D1_264
W-03-096	Looking upstream from crossing	270	W-03-096_D1_265
W-03-096	Looking downstream from crossing	90	W-03-096_D1_266
W-03-097	Looking upstream from PTH 44	10	W-03-097_D1_267
W-03-097	Looking downstream from PTH 44	200	W-03-097_D1_268
W-03-098	Looking upstream from PTH 44	360	W-03-098_D1_269
W-03-098	Looking downstream from PTH 44	180	W-03-098_D1_270
W-03-099	Looking upstream from PTH 15	180	W-03-099_D1_271
W-03-099	Looking downstream from PTH 15	45	W-03-099_D1_272
W-03-100	Looking upstream from crossing	110	W-03-100_D1_273
W-03-100	Looking downstream from crossing	300	W-03-100_D1_274
W-03-101	Looking upstream from PTH 11	130	W-03-101_D2_001
W-03-101	Looking downstream from PTH 11	250	W-03-101_D2_002
W-03-102	Looking upstream from PTH 11	90	W-03-102_D2_003
W-03-102	Looking downstream from PTH 11	270	W-03-102_D2_004
W-03-103	Looking upstream from PR 406	330	W-03-103_D2_005
W-03-103	Looking downstream from PR 406	140	W-03-103_D2_006
W-03-103	Looking downstream at lip of culvert (photo sideways)	140	W-03-103_D2_007
W-03-104	Looking upstream from crossing	225	W-03-104_D2_008
W-03-104	Looking downstream from crossing	35	W-03-104_D2_009
W-03-105	Looking upstream from Kellner Creek	280	W-03-105_D2_010
W-03-105	Looking downstream from Kellner Creek	40	W-03-105_D2_011
W-03-106	Looking upstream from PR 406	270	W-03-106_D2_012
W-03-106	Looking downstream from PR 406	90	W-03-106_D2_013

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-107	Looking upstream from box culvert	190	W-03-107_D2_014
W-03-107	Looking downstream from box culvert	20	W-03-107_D2_015
W-03-107	Looking downstream from box culvert at bank scour	350	W-03-107_D2_016
W-03-108	Looking upstream from PR 408	90	W-03-108_D2_017
W-03-108	Looking downstream from PR 408	270	W-03-108_D2_018
W-03-109	Looking upstream from PR 408	90	W-03-109_D2_019
W-03-109	Looking downstream from PR 408	270	W-03-109_D2_020
W-03-110	Looking upstream Smith Creek	100	W-03-110_D2_021
W-03-110	Looking downstream Smith Creek	340	W-03-110_D2_022
W-03-111	Looking upstream from 100m northeast of PR 408	180	W-03-111_D2_023
W-03-111	Looking downstream from 100m northeast of PR 408	0	W-03-111_D2_024
W-03-112	Looking upstream from PTH 11	230	W-03-112_D2_025
W-03-112	Looking downstream from PTH 11	30	W-03-112_D2_026
W-03-112	Looking downstream from PTH 11, 20 m upstream at culverts	245	W-03-112_D2_027
W-03-113	Looking upstream from crossing	180	W-03-113_D2_028
W-03-113	Looking downstream from crossing	0	W-03-113_D2_029
W-03-114	Looking upstream from PR 218	150	W-03-114_D2_030
W-03-114	Looking downstream from PR 218	300	W-03-114_D2_031
W-03-114	Looking at dog kennels left bank upstream from PR 218	120	W-03-114_D2_032
W-03-115	Looking upstream from PTH 59	120	W-03-115_D2_033
W-03-115	Looking downstream from PTH 59	350	W-03-115_D2_034
W-03-116	Looking upstream from bridge	90	W-03-116_D2_035
W-03-116	Looking downstream from bridge	270	W-03-116_D2_036
W-03-117	Looking upstream from PR 216	160	W-03-117_D2_037
W-03-117	Looking downstream from PR 216	270	W-03-117_D2_038
W-03-118	Looking upstream from crossing	90	W-03-118_D2_041
W-03-118	Looking downstream from crossing	270	W-03-118_D2_042
W-03-118	Looking downstream from crossing	270	W-03-118_D2_043
W-03-119	Looking upstream from PR 303	180	W-03-119_D2_044
W-03-119	Looking downstream from PR 303	0	W-03-119_D2_045
W-03-120	Looking at culvert 1m upstream from culvert	180	W-03-120_D2_046
W-03-120	Looking upstream from PR 517	0	W-03-120_D2_047
W-03-120	Looking downstream from PR 517	180	W-03-120_D2_048

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-121	Looking upstream from PR 323	0	W-03-121_D2_049
W-03-121	Looking downstream from PR 323	180	W-03-121_D2_050
W-03-122	Looking upstream 2nd order from road 3E	270	W-03-122_D2_051
W-03-122	Looking upstream 3rd order from PR 323	0	W-03-122_D2_052
W-03-122	Looking downstream 3rd order from PR 323	180	W-03-122_D2_053
W-03-123	Looking upstream from PR 322	0	W-03-123_D2_054
W-03-123	Looking downstream from PR 322	180	W-03-123_D2_055
W-03-124	Looking upstream from PR 323	0	W-03-124_D2_056
W-03-124	Looking downstream from PR 323	180	W-03-124_D2_057
W-03-125	Looking upstream from PR 323	0	W-03-125_D2_058
W-03-125	Looking downstream from PR 323	80	W-03-125_D2_059
W-03-126	Looking upstream from PTH 67	0	W-03-126_D2_060
W-03-126	Looking downstream from PTH 67	180	W-03-126_D2_061
W-03-127	Looking upstream from PTH 67	320	W-03-127_D2_062
W-03-127	Looking downstream from PTH 67	120	W-03-127_D2_063
W-03-128	Looking upstream from PTH 67	0	W-03-128_D2_064
W-03-128	Looking downstream from PTH 67	180	W-03-128_D2_065
W-03-129	Looking upstream from PTH 67	0	W-03-129_D2_066
W-03-129	Looking downstream from PTH 67	180	W-03-129_D2_067
W-03-129	Looking upstream at gated culvert from Grassmere Drain	270	W-03-129_D2_068
W-03-130	Looking upstream from PR 236	270	W-03-130_D2_069
W-03-130	Looking downstream from PR 236	90	W-03-130_D2_070
W-03-131	Looking upstream from PR 321	0	W-03-131_D2_071
W-03-131	Looking downstream from PR 321	180	W-03-131_D2_072
W-03-132	Looking upstream from PTH 7	270	W-03-132_D2_073
W-03-132	Looking downstream from PTH 7	90	W-03-132_D2_074
W-03-133	Looking upstream from crossing	270	W-03-133_D2_075
W-03-133	Looking downstream from crossing	180	W-03-133_D2_076
W-03-134	Looking upstream from junction	310	W-03-134_D2_077
W-03-134	Looking downstream from junction	110	W-03-134_D2_078
W-03-134	Looking directly at Grassmere Creek from junction	180	W-03-134_D2_079
W-03-135	Looking upstream from Toshack Road	200	W-03-135_D2_080
W-03-135	Looking downstream from Toshack Road	20	W-03-135_D2_081

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-136	Looking upstream from crossing	270	W-03-136_D2_082
W-03-136	Looking downstream from crossing	90	W-03-136_D2_083
W-03-137	Looking upstream from PR 230	270	W-03-137_D2_084
W-03-137	Looking downstream from PR 230	90	W-03-137_D2_085
W-03-138	Looking upstream from PR 230	270	W-03-138_D2_086
W-03-138	Looking downstream from PR 230	90	W-03-138_D2_087
W-03-139	Looking upstream from PTH 44	205	W-03-139_D2_088
W-03-139	Looking downstream from PTH 44	30	W-03-139_D2_089
W-03-139	Looking at wooden bridge 10 m downstream	170	W-03-139_D2_090
W-03-140	Looking upstream from PTH 8	90	W-03-140_D2_091
W-03-140	Looking downstream from PTH 8	270	W-03-140_D2_092
W-03-141	Looking upstream from PTH 8	270	W-03-141_D2_093
W-03-141	Looking downstream from PTH 8	90	W-03-141_D2_094
W-03-142	Looking upstream from PTH 8	270	W-03-142_D2_095
W-03-142	Looking downstream from PTH 8	90	W-03-142_D2_096
W-03-143	Looking upstream from PTH 44	180	W-03-143_D2_097
W-03-143	Looking downstream from PTH 44	0	W-03-143_D2_098
W-03-143	Looking downstream from N most gravel road	0	W-03-143_D2_099
W-03-144	Looking upstream from PTH 44	160	W-03-144_D2_100
W-03-144	Looking downstream from PTH 44	355	W-03-144_D2_101
W-03-144	Looking downstream from north most crossing (paved)	345	W-03-144_D2_102
W-03-145	Looking upstream from PTH 44	30	W-03-145_D2_103
W-03-145	Looking downstream from Middle Boulevard	0	W-03-145_D2_104
W-03-145	Looking downstream from PTH 44	180	W-03-145_D2_105
W-03-146	Looking upstream from crossing	180	W-03-146_D2_106
W-03-146	Looking downstream from crossing	0	W-03-146_D2_107
W-03-147	Looking upstream 2nd order parallel to PR 302	180	W-03-147_D2_108
W-03-147	Looking upstream 2nd order perpendicular to PR 302	270	W-03-147_D2_109
W-03-147	Looking downstream 3rd order from PR 302	90	W-03-147_D2_110
W-03-148	Looking upstream from crossing	180	W-03-148_D2_111
W-03-148	Looking downstream from crossing	90	W-03-148_D2_112
W-03-148	Looking upstream 1st order	0	W-03-148_D2_113
W-03-148	Looking upstream 3rd order from 15m back	180	W-03-148_D2_114

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-149	Looking upstream from crossing	270	W-03-149_D2_115
W-03-149	Looking downstream from crossing	90	W-03-149_D2_116
W-03-150	Looking upstream from crossing	270	W-03-150_D2_117
W-03-150	Looking downstream from crossing	90	W-03-150_D2_118
W-03-151	Looking upstream from east side of PTH 1	270	W-03-151_D2_119
W-03-151	Looking downstream from east side of PTH 1 median	360	W-03-151_D2_120
W-03-151	Looking upstream from west side of PTH 1	360	W-03-151_D2_121
W-03-152	Looking upstream from PTH 15	185	W-03-152_D2_122
W-03-152	Looking downstream from PTH 15	0	W-03-152_D2_123
W-03-153	Looking upstream from PTH 15	180	W-03-153_D2_124
W-03-153	Looking upstream from PTH 15	180	W-03-153_D2_125
W-03-153	Looking upstream from PTH 15	140	W-03-153_D2_126
W-03-153	Looking downstream from PTH 15	0	W-03-153_D2_127
W-03-153	Looking downstream from PTH 15	310	W-03-153_D2_128
W-03-153	Looking downstream from PTH 15	290	W-03-153_D2_129
W-03-154	Looking upstream from PR 506	90	W-03-154_D2_130
W-03-154	Looking downstream from PR 506	270	W-03-154_D2_131
W-03-155	Looking upstream from PTH 1 eastbound	180	W-03-155_D2_132
W-03-155	Looking downstream from PTH 1 eastbound	0	W-03-155_D2_133
W-03-155	Looking downstream from PTH 1 westbound	0	W-03-155_D2_134
W-03-156	Looking upstream from PTH 1	180	W-03-156_D2_135
W-03-156	Looking downstream from PTH 1	0	W-03-156_D2_136
W-03-157	Looking upstream from PR 506	180	W-03-157_D2_137
W-03-157	Looking downstream from PR 506	0	W-03-157_D2_138
W-03-158	Looking upstream from PR 507	180	W-03-158_D2_139
W-03-158	Looking downstream from PR 507	0	W-03-158_D2_140
W-03-159	Looking upstream from PTH 1 eastbound	180	W-03-159_D2_141
W-03-159	Looking downstream from PTH 1 eastbound	300	W-03-159_D2_142
W-03-159	Looking downstream from PTH 1 westbound	360	W-03-159_D2_143
W-03-160	Looking upstream from PR 308	90	W-03-160_D2_144
W-03-160	Looking downstream from PR 308	270	W-03-160_D2_145
W-03-161	Looking upstream from PR 503	60	W-03-161_D2_146
W-03-161	Looking downstream from PR 503	200	W-03-161_D2_147

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-162	Looking upstream from River Road	270	W-03-162_D2_148
W-03-162	Looking downstream from River Road	360	W-03-162_D2_149
W-03-163	Looking upstream River Road	90	W-03-163_D2_150
W-03-163	Looking downstream River Road	270	W-03-163_D2_151
W-03-164	Looking upstream PTH 11	220	W-03-164_D2_152
W-03-164	Looking downstream PTH 11	75	W-03-164_D2_153
W-03-164	Looking downstream PTH 11 (zoomed in)	75	W-03-164_D2_154
W-03-165	Looking upstream from box culvert	200	W-03-165_D2_155
W-03-165	Looking downstream from box culvert	90	W-03-165_D2_156
W-03-166	Looking upstream from crossing	270	W-03-166_D2_157
W-03-166	Looking downstream from crossing	90	W-03-166_D2_158
W-03-167	Looking upstream from PTH 11	315	W-03-167_D2_159
W-03-167	Looking downstream from PTH 11	135	W-03-167_D2_160
W-03-168	Looking upstream from crossing	270	W-03-168_D2_161
W-03-168	Looking downstream from crossing	90	W-03-168_D2_162
W-03-169	Looking upstream from culverts	200	W-03-169_D2_163
W-03-169	Looking downstream from culverts	100	W-03-169_D2_164
W-03-169	Looking at upstream eroded bank	90	W-03-169_D2_165
W-03-170	Looking upstream north 1st order from grass crossing	0	W-03-170_D2_166
W-03-170	Looking upstream south 1st order from grass crossing	180	W-03-170_D2_167
W-03-170	Looking downstream 2nd order from PTH 11	270	W-03-170_D2_168
W-03-171	Looking upstream from PR 211	0	W-03-171_D2_169
W-03-171	Looking downstream from PR 211	180	W-03-171_D2_170
W-03-172	Looking upstream from culvert	270	W-03-172_D2_172
W-03-172	Looking downstream from PTH 11	90	W-03-172_D2_173
W-03-173	Looking upstream from north culvert	300	W-03-173_D2_174
W-03-173	Looking downstream from north culvert	90	W-03-173_D2_175
W-03-174	Looking upstream 2nd order from culvert	180	W-03-174_D2_176
W-03-174	Looking downstream 3rd order from PTH 11	90	W-03-174_D2_177
W-03-175	Looking upstream from crossing	300	W-03-175_D2_178
W-03-175	Looking downstream from crossing	120	W-03-175_D2_179
W-03-176	Looking upstream from PTH 11	100	W-03-176_D2_180
W-03-176	Looking downstream from PTH 11	240	W-03-176_D2_181

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-177	Looking upstream from crossing	0	W-03-177_D2_182
W-03-177	Looking downstream from crossing	180	W-03-177_D2_183
W-03-178	Looking upstream from crossing	315	W-03-178_D2_184
W-03-178	Looking downstream from crossing	135	W-03-178_D2_185
W-03-179	Looking upstream from crossing	310	W-03-179_D2_186
W-03-179	Looking downstream from crossing	170	W-03-179_D2_187
W-03-180	Looking upstream from crossing	340	W-03-180_D2_188
W-03-180	Looking downstream from crossing	165	W-03-180_D2_189
W-03-181	Looking upstream from crossing	330	W-03-181_D2_190
W-03-181	Looking downstream from crossing	170	W-03-181_D2_191
W-03-182	Looking upstream from mud road	250	W-03-182_D2_192
W-03-182	Looking downstream from mud road	70	W-03-182_D2_193
W-03-183	Looking upstream PTH 2	0	W-03-183_D2_194
W-03-183	Looking downstream PTH 2	180	W-03-183_D2_195
W-03-183	Looking upstream from railway crossing of 3 culverts	0	W-03-183_D2_196
W-03-184	Looking upstream from PR 248	270	W-03-184_D2_197
W-03-184	Looking downstream from PR 248	90	W-03-184_D2_198
W-03-185	Looking upstream from PTH 2	180	W-03-185_D2_199
W-03-185	Looking downstream from PTH 2	0	W-03-185_D2_200
W-03-185	Looking downstream from railway track	0	W-03-185_D2_201
W-03-186	Looking downstream from bridge (backwards from regular order)	315	W-03-186_D2_202
W-03-186	Looking upstream from bridge	180	W-03-186_D2_203
W-03-187	Looking upstream from crossing	300	W-03-187_D2_204
W-03-187	Looking downstream from crossing	90	W-03-187_D2_205
W-03-188	Looking upstream from PR 248	290	W-03-188_D2_206
W-03-188	Looking downstream from PR 248	110	W-03-188_D2_207
W-03-189	Looking upstream from PR 248	270	W-03-189_D2_208
W-03-189	Looking downstream from PR 248	90	W-03-189_D2_209
W-03-190	Looking upstream from PR 201, Piney West Drain	0	W-03-190_D2_210
W-03-190	Looking upstream unnamed 2nd order drain from PR 201	270	W-03-190_D2_211
W-03-190	Looking downstream Piney West Drain from PR 201	180	W-03-190_D2_212
W-03-191	Looking upstream PTH 89	90	W-03-191_D2_213
W-03-191	Looking downstream PTH 89	270	W-03-191_D2_214

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-192	Looking upstream from crossing	270	W-03-192_D2_215
W-03-192	Looking downstream from crossing	90	W-03-192_D2_216
W-03-193	Looking upstream from crossing	270	W-03-193_D2_217
W-03-193	Looking downstream from crossing	90	W-03-193_D2_218
W-03-194	Looking upstream from PTH 12	0	W-03-194_D2_219
W-03-194	Looking downstream from PTH 12	180	W-03-194_D2_220
W-03-195	Looking upstream from PTH 12	0	W-03-195_D2_221
W-03-195	Looking downstream from PTH 12	180	W-03-195_D2_222
W-03-196	Looking upstream 2nd order from crossing	90	W-03-196_D3_001
W-03-196	Looking upstream 2nd order from crossing	270	W-03-196_D3_002
W-03-196	Looking downstream 3rd order from crossing	0	W-03-196_D3_003
W-03-197	Looking upstream PTH 12	0	W-03-197_D3_004
W-03-197	Looking downstream PTH 12	180	W-03-197_D3_005
W-03-197	Looking at bank slump on downstream side of bridge on left bank	270	W-03-197_D3_006
W-03-198	Looking upstream from PTH 12	30	W-03-198_D3_007
W-03-198	Looking downstream from PTH 12	200	W-03-198_D3_008
W-03-199	Looking upstream from crossing	0	W-03-199_D3_009
W-03-199	Looking downstream from crossing	180	W-03-199_D3_010
W-03-200	Looking upstream from crossing	210	W-03-200_D3_011
W-03-200	Looking downstream from crossing	280	W-03-200_D3_012
W-03-201	Looking upstream from crossing	130	W-03-201_D3_013
W-03-201	Looking downstream from crossing	350	W-03-201_D3_014
W-03-202	Looking upstream from crossing	180	W-03-202_D3_015
W-03-202	Looking downstream from crossing	0	W-03-202_D3_016
W-03-203	Looking upstream from crossing	180	W-03-203_D3_017
W-03-203	Looking downstream from crossing	0	W-03-203_D3_018
W-03-204	Looking upstream from crossing	100	W-03-204_D3_019
W-03-204	Looking downstream from crossing	340	W-03-204_D3_020
W-03-205	Looking upstream from crossing	180	W-03-205_D3_021
W-03-205	Looking downstream from crossing	0	W-03-205_D3_022
W-03-206	Looking upstream from PTH 12	120	W-03-206_D3_023
W-03-206	Looking downstream from PTH 12	260	W-03-206_D3_024
W-03-207	Looking upstream from PTH 12	130	W-03-207_D3_025

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-207	Looking downstream from PTH 12	280	W-03-207_D3_026
W-03-208	Looking upstream unnamed 2nd order from PTH 12	90	W-03-208_D3_027
W-03-208	Looking upstream Hazelridge Drain from gravel crossing	180	W-03-208_D3_028
W-03-208	Looking downstream Hazelridge Drain from PTH 12	270	W-03-208_D3_029
W-03-209	Looking upstream from PR 306	70	W-03-209_D3_030
W-03-209	Looking downstream from PR 306	280	W-03-209_D3_031
W-03-210	Looking upstream from PTH 15	270	W-03-210_D3_032
W-03-210	Looking downstream from PTH 15	0	W-03-210_D3_033
W-03-211	Looking upstream 2nd order from grass crossing	270	W-03-211_D3_034
W-03-211	Looking upstream Swede Drain from Hazelridge Road	180	W-03-211_D3_035
W-03-211	Looking downstream Swede Drain from Hazelridge Road	0	W-03-211_D3_036
W-03-212	Looking upstream from crossing	180	W-03-212_D3_037
W-03-212	Looking downstream from crossing	0	W-03-212_D3_038
W-03-213	Looking upstream from PR 306	100	W-03-213_D3_039
W-03-213	Looking downstream from PR 306	280	W-03-213_D3_040
W-03-214	Looking upstream from Sapton Road	140	W-03-214_D3_041
W-03-214	Looking downstream from Sapton Road.	60	W-03-214_D3_042
W-03-215	Looking upstream from Sapton Road	180	W-03-215_D3_043
W-03-215	Looking downstream from Sapton Road.	0	W-03-215_D3_044
W-03-216	Looking upstream Swede Drain from Corbet Road	180	W-03-216_D3_045
W-03-216	Looking upstream Cooks Creek Diversion from Cooks Creek Road	90	W-03-216_D3_046
W-03-216	Looking downstream Cooks Creek Diversion from Cooks Creek Road	270	W-03-216_D3_047
W-03-217	Looking upstream from PR 206	90	W-03-217_D3_048
W-03-217	Looking downstream from PR 206	270	W-03-217_D3_049
W-03-218	Looking upstream from gravel crossing	90	W-03-218_D3_050
W-03-218	Looking downstream from gravel crossing	270	W-03-218_D3_051
W-03-219	Looking upstream from PR 206	90	W-03-219_D3_052
W-03-219	Looking downstream from PR 206	270	W-03-219_D3_053
W-03-220	Looking upstream from PTH 68	180	W-03-220_D3_054
W-03-220	Looking downstream from PTH 68	0	W-03-220_D3_055
W-03-221	Looking upstream from PTH 68	90	W-03-221_D3_056
W-03-221	Looking downstream from PTH 68	270	W-03-221_D3_057
W-03-222	Looking upstream from PTH 68	220	W-03-222_D3_058

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-222	Looking downstream from PTH 68	40	W-03-222_D3_059
W-03-223	Looking upstream from gravel culvert crossing	210	W-03-223_D3_060
W-03-223	Looking downstream from gravel culvert crossing	310	W-03-223_D3_061
W-03-224	Looking upstream from PTH 68	160	W-03-224_D3_062
W-03-224	Looking downstream from PTH 68	345	W-03-224_D3_063
W-03-225	Looking upstream from PR 233	280	W-03-225_D3_064
W-03-225	Looking downstream from PR 233	90	W-03-225_D3_065
W-03-226	Looking upstream from farmer's road	0	W-03-226_D3_066
W-03-226	Looking downstream from farmer's road	180	W-03-226_D3_067
W-03-227	Looking upstream Icelandic River	290	W-03-227_D3_068
W-03-227	Looking downstream Icelandic River	80	W-03-227_D3_069
W-03-228	Looking upstream from PTH 8	270	W-03-228_D3_070
W-03-228	Looking downstream from PTH 8	90	W-03-228_D3_071
W-03-229	Looking upstream 2nd order from Road 137 N	0	W-03-229_D3_072
W-03-229	Looking upstream 2nd order from PTH 8	260	W-03-229_D3_073
W-03-229	Looking downstream 3rd order from PTH 8	70	W-03-229_D3_074
W-03-229	Looking downstream at un-mapped drain (north)	70	W-03-229_D3_075
W-03-229	Looking downstream at un-mapped drain (south)	70	W-03-229_D3_076
W-03-230	Looking upstream from PR 326	0	W-03-230_D3_077
W-03-230	Looking downstream from PR 326	180	W-03-230_D3_078
W-03-231	Looking upstream from Road 12E	260	W-03-231_D3_079
W-03-231	Looking downstream from Road 12E	80	W-03-231_D3_080
W-03-232	Looking upstream from crossing	290	W-03-232_D3_081
W-03-232	Looking downstream from crossing	130	W-03-232_D3_082
W-03-233	Looking upstream from gravel culvert crossing	40	W-03-233_D3_083
W-03-233	Looking downstream from gravel culvert crossing	150	W-03-233_D3_084
W-03-233	Photo of canola field	N/A	W-03-233_D3_085
W-03-233	Photo of canola field	N/A	W-03-233_D3_086
W-03-234	Looking upstream from crossing	260	W-03-234_D3_087
W-03-234	Looking downstream from crossing	80	W-03-234_D3_088
W-03-235	Looking upstream from PTH 68	160	W-03-235_D3_089
W-03-235	Looking downstream from PTH 68	300	W-03-235_D3_090
W-03-236	Looking upstream from crossing	230	W-03-236_D3_091

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-236	Looking downstream from crossing	60	W-03-236_D3_092
W-03-236	Looking upstream at large culvert	230	W-03-236_D3_093
W-03-237	Looking upstream from PR 329	160	W-03-237_D3_094
W-03-237	Looking downstream from PR 329	40	W-03-237_D3_095
W-03-238	Looking upstream from bridge crossing	270	W-03-238_D3_096
W-03-238	Looking downstream from bridge crossing	340	W-03-238_D3_097
W-03-239	Looking upstream from crossing	205	W-03-239_D3_098
W-03-239	Looking downstream from crossing	40	W-03-239_D3_099
W-03-240	Looking upstream from gravel culvert crossing	270	W-03-240_D3_100
W-03-240	Looking downstream from gravel culvert crossing	85	W-03-240_D3_101
W-03-241	Looking upstream from gravel crossing	180	W-03-241_D3_102
W-03-241	Looking downstream from gravel crossing	320	W-03-241_D3_103
W-03-242	Looking upstream from gravel crossing	260	W-03-242_D3_104
W-03-242	Looking downstream from gravel crossing	80	W-03-242_D3_105
W-03-242	Looking at dried manure	80	W-03-242_D3_106
W-03-242	Looking at manure field & banks	0	W-03-242_D3_107
W-03-243	Looking upstream from PR 234 from bridge	240	W-03-243_D3_108
W-03-243	Looking downstream from PR 243 from bridge	100	W-03-243_D3_109
W-03-244	Looking upstream from PTH 8	250	W-03-244_D3_110
W-03-244	Looking downstream from PTH 8	80	W-03-244_D3_111
W-03-245	Looking upstream from Road 14E	270	W-03-245_D3_112
W-03-245	Looking downstream from Road 14E	90	W-03-245_D3_113
W-03-246	Looking upstream from PR 233	270	W-03-246_D3_114
W-03-246	Looking downstream from PR 233	90	W-03-246_D3_115
W-03-247	Looking upstream from bridge at PR 234	310	W-03-247_D3_116
W-03-247	Looking downstream from bridge at PR 234	120	W-03-247_D3_117
W-03-248	Looking upstream from crossing	320	W-03-248_D3_118
W-03-248	Looking downstream from crossing	180	W-03-248_D3_119
W-03-249	Looking upstream from bridge crossing	130	W-03-249_D3_120
W-03-249	Looking downstream from bridge crossing	325	W-03-249_D3_121
W-03-250	Looking upstream from PR 304	180	W-03-250_D3_122
W-03-250	Looking downstream from PR 304	0	W-03-250_D3_123
W-03-251	Looking upstream from Gusta Road at bridge crossing	180	W-03-251_D3_124

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-03-251	Looking downstream from Gusta Road at bridge crossing	0	W-03-251_D3_125
W-03-252	Looking upstream from crossing	90	W-03-252_D3_126
W-03-252	Looking downstream from crossing	270	W-03-252_D3_127
W-03-253	Looking upstream from culvert crossing (paved road)	270	W-03-253_D3_128
W-03-253	Looking downstream from culvert crossing (paved road)	90	W-03-253_D3_129
W-03-254	Looking upstream from crossing	260	W-03-254_D3_130
W-03-254	Looking downstream from crossing	140	W-03-254_D3_131
W-03-255	Looking upstream from PTH 11 at bridge crossing	120	W-03-255_D3_132
W-03-255	Looking downstream from PTH 11 at bridge crossing	300	W-03-255_D3_133
W-03-255	Looking at Winnipeg River from PTH 11, at Fort Alexander Reserve	160	W-03-255_D3_134
W-03-255	Looking at Winnipeg River from PTH 11, at Fort Alexander Reserve	N/A	W-03-255_D3_135
W-03-256	Looking upstream 2nd order from gravel crossing at wood bridge	60	W-03-256_D3_136
W-03-256	Looking upstream 3rd order from gravel crossing at wood bridge	180	W-03-256_D3_137
W-03-256	Looking downstream 3rd order from gravel crossing	180	W-03-256_D3_138
W-03-257	Looking upstream from gravel crossing	180	W-03-257_D3_139
W-03-257	Looking downstream from gravel crossing	0	W-03-257_D3_140
W-03-258	Looking upstream from PTH 9	205	W-03-258_D3_141
W-03-258	Looking downstream from PTH 9	80	W-03-258_D3_142
W-03-259	Looking upstream from PR 515	180	W-03-259_D3_143
W-03-259	Looking downstream from PR 515	0	W-03-259_D3_144
W-03-260	Looking upstream at culvert (from rocks north of pool)	180	W-03-260_D3_145
W-03-260	Looking upstream from PR 515	180	W-03-260_D3_146
W-03-260	Looking downstream from PR 515	0	W-03-260_D3_147
W-03-261	Looking upstream from gravel road crossing	195	W-03-261_D3_148
W-03-261	Looking downstream from gravel road crossing	335	W-03-261_D3_149
W-03-262	Looking upstream from PTH 8	270	W-03-262_D3_150
W-03-262	Looking downstream from PTH 8	90	W-03-262_D3_151
W-03-263	Looking upstream from PTH 67	180	W-03-263_D3_152
W-03-263	Looking downstream from PTH 67	0	W-03-263_D3_153
W-03-264	Looking upstream from PTH 7	305	W-03-264_D3_154
W-03-264	Looking downstream from PTH 7	105	W-03-264_D3_155
W-03-265	Looking upstream from PTH 7	270	W-03-265_D3_156
W-03-265	Looking downstream from PTH 7	170	W-03-265_D3_157

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-03-266	Looking upstream from dike crossing	105	W-03-266_D3_158
W-03-267	Looking upstream from left bank dike	280	W-03-267_D3_159
W-03-267	Looking downstream from left bank dike	160	W-03-267_D3_160
B-04-001	Looking upstream from culvert crossing	310	B-04-001_P5010001
B-04-001	Looking downstream from culvert crossing	135	B-04-001_P5010002
B-04-001	Looking downstream towards culvert inlet	N/A	B-04-001_P5010003
B-04-001	Looking upstream towards culvert inlet	N/A	B-04-001_P5010004
B-04-002	Looking upstream from crossing of access road	315	B-04-002_P5010005
B-04-002	Looking downstream from crossing of access road	130	B-04-002_P5010006
B-04-002	Looking upstream at culverts	125	B-04-002_P5010007
B-04-002	Looking downstream at culverts	315	B-04-002_P5010008
B-04-002	Looking upstream at culvert crossing on the westbound Perimeter	125	B-04-002_P5010009
B-04-003	Looking downstream from bridge	90	B-04-003_P5010010
B-04-003	Looking upstream from bridge	270	B-04-003_P5010011
B-04-003	Looking upstream at rocks and pool under bridge	N/A	B-04-003_P5010012
B-04-003	Photo of White Sucker caught in seine haul	N/A	B-04-003_P5010013
B-04-003	Photo of Northern Pike caught in seine haul	N/A	B-04-003_P5010014
B-04-004	Looking upstream from low-level crossing	360	B-04-004_P5010015
B-04-004	Looking downstream from low-level crossing	180	B-04-004_P5010016
B-04-004	Looking at culvert bringing flow in from ditch outside of dike	90	B-04-004_P5010017
B-04-005	Looking upstream from bridge	270	B-04-005_P5010018
B-04-005	Looking downstream from bridge	90	B-04-005_P5010019
B-04-006	Looking upstream from under bridge	110	B-04-006_P5010020
B-04-006	Looking downstream from under bridge	230	B-04-006_P5010021
B-04-006	Photo of suckers stranded after higher waters (spawning?)	N/A	B-04-006_P5010022
B-04-006	Photo of garbage and dead Yellow Perch washed onto rocks	N/A	B-04-006_P5010023
B-04-007	Looking upstream from gravel road crossing	45	B-04-007_P5010024
B-04-007	Looking downstream from gravel road crossing	225	B-04-007_P5010025
B-04-007	Looking upstream at culverts	45	B-04-007_P5010026
B-04-008	Looking upstream from culvert crossing	270	B-04-008_P5010027
B-04-008	Looking downstream from culvert crossing	90	B-04-008_P5010028
B-04-008	Looking downstream at culvert inlet	45	B-04-008_P5010029
B-04-008	Looking upstream at culvert outlet	270	B-04-008_P5010030

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-009	Looking upstream from crossing of PR 480	270	B-04-009_P5020001
B-04-009	Looking downstream from crossing of PR 480	90	B-04-009_P5020002
B-04-009	Looking up east ditch downstream from PR 480 crossing	360	B-04-009_P5020003
B-04-009	Looking upstream at outlet of 1.5m culverts	N/A	B-04-009_P5020004
B-04-010	Looking upstream from bridge crossing	270	B-04-010_P5020005
B-04-010	Looking downstream from bridge crossing	90	B-04-010_P5020006
B-04-010	Looking south at gated culvert running into drain	180	B-04-010_P5020007
B-04-010	Looking west at recently dredged portion of the drain	90	B-04-010_P5020008
B-04-010	Looking at south at recently dredged ditches that flow into drain	180	B-04-010_P5020009
B-04-011	Looking upstream from end of reach	270	B-04-011_P5020010
B-04-011	Looking downstream from end of reach	90	B-04-011_P5020011
B-04-012	Looking downstream from riffles	170	B-04-012_P5020012
B-04-012	Looking upstream from riffles	340	B-04-012_P5020013
B-04-012	Looking at spawning suckers	N/A	B-04-012_P5020014
B-04-012	Looking at spawning suckers	N/A	B-04-012_P5020015
B-04-012	Looking at spawning suckers	N/A	B-04-012_P5020016
B-04-012	Looking at suckers moving upstream of gradient control structure	N/A	B-04-012_P5020017
B-04-012	Looking at suckers moving upstream of gradient control structure	N/A	B-04-012_P5020018
B-04-013	Looking upstream from bridge crossing	300	B-04-013_P5020019
B-04-013	Looking downstream from bridge crossing	100	B-04-013_P5020020
B-04-014	Looking upstream from riffles	350	B-04-014_P5020021
B-04-014	Looking downstream from riffles	170	B-04-014_P5020022
B-04-014	Looking at washed up suckers (note spawning colors on them)	N/A	B-04-014_P5020023
B-04-015	Looking upstream from control structure	N/A	B-04-015_P5020024
B-04-015	Looking downstream from control structure	N/A	B-04-015_P5020025
B-04-015	Photo of spawning suckers at the riffle	N/A	B-04-015_P5020026
B-04-016	Looking upstream from bottom of riffle	280	B-04-016_P5020027
B-04-016	Looking downstream from bottom of riffle	45	B-04-016_P5020028
B-04-017	Looking upstream from riffle	180	B-04-017_P5020029
B-04-017	Looking downstream from riffle	360	B-04-017_P5020030
B-04-018	Looking upstream from bridge crossing	340	B-04-018_P5030001
B-04-018	Looking downstream from bridge crossing	160	B-04-018_P5030002
B-04-019	Looking upstream from gravel road crossing	270	B-04-019_P5030003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-019	Looking downstream from gravel road crossing	90	B-04-019_P5030004
B-04-019	Looking upstream at culvert outlet	N/A	B-04-019_P5030005
B-04-020	Looking upstream from dirt road crossing	270	B-04-020_P5030006
B-04-020	Looking downstream from dirt road crossing	90	B-04-020_P5030007
B-04-020	Looking upstream at culvert outlet	N/A	B-04-020_P5030008
B-04-021	Looking downstream from gravel road crossing	90	B-04-021_P5030009
B-04-021	Looking upstream at culvert outlet	300	B-04-021_P5030010
B-04-021	Looking at released Black Bullhead (170mm)	N/A	B-04-021_P5030011
B-04-022	Looking downstream from reach	360	B-04-022_P5030012
B-04-022	Looking upstream from reach	180	B-04-022_P5030013
B-04-023	Looking upstream from crossing	270	B-04-023_P5040001
B-04-023	Looking downstream from crossing	90	B-04-023_P5040002
B-04-024	Looking upstream from crossing	270	B-04-024_P5040003
B-04-024	Looking downstream from crossing	90	B-04-024_P5040004
B-04-024	Looking upstream at culvert outlet	N/A	B-04-024_P5040005
B-04-025	Looking upstream from road crossing	N/A	B-04-025_P5040006
B-04-025	Looking downstream from road crossing	N/A	B-04-025_P5040007
B-04-026	Looking upstream from crossing	195	B-04-026_P5040008
B-04-026	Looking downstream from crossing	10	B-04-026_P5040009
B-04-026	Looking at released Black Bullhead (170mm)	N/A	B-04-026_P5040010
B-04-026	Looking at released Black Bullhead (125mm)	N/A	B-04-026_P5040011
B-04-027	Looking upstream	360	B-04-027_P5040012
B-04-027	Looking downstream	160	B-04-027_P5040013
B-04-027	Looking at released quillback (403mm)	N/A	B-04-027_P5040014
B-04-027	Looking at released quillback (424mm)	N/A	B-04-027_P5040015
B-04-027	Head shot of the 424mm Quillback	N/A	B-04-027_P5040016
B-04-028	Looking upstream from road crossing	340	B-04-028_P5040017
B-04-028	Looking downstream from road crossing	150	B-04-028_P5040018
B-04-028	Looking across downstream end of road crossing	N/A	B-04-028_P5040019
B-04-029	Looking upstream from riffle	360	B-04-029_P5040020
B-04-029	Looking downstream from riffle	180	B-04-029_P5040021
B-04-029	Looking at riffle	315	B-04-029_P5040022
B-04-030	Looking upstream from middle of reach	360	B-04-030_P5040023

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-030	Looking downstream from middle of reach	180	B-04-030_P5040024
B-04-031	Looking upstream from culvert crossing	270	B-04-031_P5060001
B-04-031	Looking downstream from culvert crossing	90	B-04-031_P5060002
B-04-031	Looking upstream at culvert outlets	250	B-04-031_P5060003
B-04-031	Looking downstream at culvert inlets	90	B-04-031_P5060004
B-04-032	Looking upstream from culvert crossing	270	B-04-032_P5060005
B-04-032	Looking downstream from culvert crossing	90	B-04-032_P5060006
B-04-033	Looking upstream from culvert crossing	90	B-04-033_P5060009
B-04-033	Looking downstream from culvert crossing	270	B-04-033_P5060010
B-04-033	Looking south at inflow from 3rd order tributary (note perched culvert)	200	B-04-033_P5060011
B-04-034	Looking upstream from culvert crossing	270	B-04-034_P5060012
B-04-034	Looking downstream from culvert crossing	90	B-04-034_P5060013
B-04-035	Looking upstream from culvert crossing	180	B-04-035_P5060014
B-04-035	Looking downstream from culvert crossing	360	B-04-035_P5060015
B-04-035	Looking at culvert outlets	300	B-04-035_P5060016
B-04-036	Looking upstream from culvert crossing	270	B-04-036_P5060017
B-04-036	Looking downstream from culvert crossing	90	B-04-036_P5060018
B-04-037	Looking upstream from low-level crossing	350	B-04-037_P5060019
B-04-037	Looking downstream from low-level crossing	170	B-04-037_P5060020
B-04-038	Looking upstream from culvert crossing	150	B-04-038_P5060021
B-04-038	Looking downstream from culvert crossing	90	B-04-038_P5060022
B-04-038	Looking downstream at large culvert inlet	360	B-04-038_P5060023
B-04-038	Looking downstream at small culvert inlet	360	B-04-038_P5060024
B-04-039	Looking at 100s of White Suckers in a pool downstream of a water control structure - passage to upstream spawning riffles is blocked	N/A	B-04-039_P5060025
B-04-039	Looking at 100s of White Suckers in a pool downstream of a water control structure - passage to upstream spawning riffles is blocked	N/A	B-04-039_P5060026
B-04-039	Looking at 100s of White Suckers in a pool downstream of a water control structure - passage to upstream spawning riffles is blocked	N/A	B-04-039_P5060027
B-04-039	Looking at 100s of White Suckers in a pool downstream of a water control structure - passage to upstream spawning riffles is blocked	N/A	B-04-039_P5060028
B-04-039	Looking upstream from crossing	180	B-04-039_P5060029
B-04-039	Looking upstream from crossing	200	B-04-039_P5060030

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-039	Looking downstream from crossing	360	B-04-039_P5060031
B-04-039	Looking upstream at culvert outlets	N/A	B-04-039_P5060032
B-04-039	Looking downstream at water control structure	335	B-04-039_P5060033
B-04-039	Looking upstream at Pembina River weir	210	B-04-039_P5060034
B-04-039	Looking downstream from above weir	125	B-04-039_P5060035
B-04-040	Looking upstream from gravel road crossing	125	B-04-040_P5070001
B-04-040	Looking downstream from gravel road crossing	70	B-04-040_P5070002
B-04-041	Looking upstream from culvert crossing	360	B-04-041_P5070003
B-04-041	Looking downstream from culvert crossing	180	B-04-041_P5070004
B-04-042	Looking upstream from gravel road crossing	150	B-04-042_P5070005
B-04-042	Looking downstream from gravel road crossing	330	B-04-042_P5070006
B-04-043	Looking upstream from culvert crossing	90	B-04-043_P5070007
B-04-043	Looking downstream from culvert crossing	250	B-04-043_P5070008
B-04-043	Looking downstream at culvert inlet	340	B-04-043_P5070009
B-04-043	Looking upstream at culvert outlet	160	B-04-043_P5070010
B-04-044	Looking upstream from culvert crossing	90	B-04-044_P5070011
B-04-044	Looking downstream from culvert crossing	180	B-04-044_P5070012
B-04-044	Looking upstream at culvert outlet	140	B-04-044_P5070013
B-04-044	Looking at downstream at culvert inlet	250	B-04-044_P5070014
B-04-045	Looking upstream from culvert crossing	230	B-04-045_P5070015
B-04-045	Looking downstream from culvert crossing	115	B-04-045_P5070016
B-04-045	Looking upstream at perched culverts	N/A	B-04-045_P5070017
B-04-046	Looking upstream from culvert crossing	90	B-04-046_P5100001
B-04-046	Looking downstream from culvert crossing	270	B-04-046_P5100002
B-04-046	Looking downstream at culvert inlet	320	B-04-046_P5100003
B-04-046	Looking upstream at culvert outlet	70	B-04-046_P5100004
B-04-046	Looking at released Creek Chub (170mm)	N/A	B-04-046_P5100005
B-04-046	Looking at released Creek Chub (170mm)	N/A	B-04-046_P5100006
B-04-046	Looking at Northern Redbelly Dace	N/A	B-04-046_P5100007
B-04-047	Looking upstream from culvert crossing	200	B-04-047_P5100008
B-04-047	Looking downstream from culvert crossing	30	B-04-047_P5100009
B-04-047	Looking downstream at culvert inlets	35	B-04-047_P5100010
B-04-047	Looking upstream at culvert outlets	160	B-04-047_P5100011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-048	Looking upstream from bridge crossing	135	B-04-048_P5100012
B-04-048	Looking downstream from bridge crossing	330	B-04-048_P5100013
B-04-049	Looking upstream from crossing	65	B-04-049_P5130001
B-04-049	Looking downstream from crossing	250	B-04-049_P5130002
B-04-049	Looking downstream at inlet of cement box culvert	240	B-04-049_P5130003
B-04-050	Looking upstream from road crossing	350	B-04-050_P5130004
B-04-050	Looking downstream from road crossing	170	B-04-050_P5130005
B-04-050	Looking at perched culvert	N/A	B-04-050_P5130006
B-04-051	Looking upstream from culvert crossing	350	B-04-051_P5130007
B-04-051	Looking downstream from culvert crossing	170	B-04-051_P5130008
B-04-052	Looking upstream from road crossing	20	B-04-052_P5130009
B-04-052	Looking downstream from road crossing	200	B-04-052_P5130010
B-04-053	Looking upstream from bridge crossing	20	B-04-053_P5130011
B-04-053	Looking downstream from bridge crossing	190	B-04-053_P5130012
B-04-054	Looking upstream from road crossing	360	B-04-054_P5130013
B-04-054	Looking downstream from road crossing	190	B-04-054_P5130014
B-04-055	Looking upstream from bridge crossing	10	B-04-055_P5130015
B-04-055	Looking downstream from bridge crossing	80	B-04-055_P5130016
B-04-056	Looking upstream from culvert crossing	45	B-04-056_P5130017
B-04-056	Looking downstream from culvert crossing	270	B-04-056_P5130018
B-04-057	Looking upstream from bridge crossing	25	B-04-057_P5140001
B-04-057	Looking downstream from bridge crossing	220	B-04-057_P5140002
B-04-058	Looking upstream from road crossing	260	B-04-058_P5140003
B-04-058	Looking downstream from road crossing	110	B-04-058_P5140004
B-04-058	Looking upstream at metal pipe outlet	N/A	B-04-058_P5140005
B-04-058	Photo of side view of metal pipe inlet	N/A	B-04-058_P5140006
B-04-059	Looking upstream from culvert crossing	350	B-04-059_P5140007
B-04-059	Looking downstream from culvert crossing	180	B-04-059_P5140008
B-04-059	Looking upstream at perched culvert outlet	N/A	B-04-059_P5140009
B-04-059	Photo of side view of inlet	N/A	B-04-059_P5140010
B-04-060	Looking upstream from bridge crossing	260	B-04-060_P5140011
B-04-060	Looking downstream from bridge crossing	100	B-04-060_P5140012
B-04-061	Looking upstream from culvert crossing	180	B-04-061_P5140013

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-061	Looking downstream from culvert crossing	0	B-04-061_P5140014
B-04-061	Looking upstream at perched culvert	N/A	B-04-061_P5140015
B-04-062	Looking upstream from road crossing	160	B-04-062_P5140016
B-04-062	Looking upstream from road crossing	130	B-04-062_P5140017
B-04-063	Looking upstream from road crossing	80	B-04-063_P5140018
B-04-063	Looking downstream from road crossing	290	B-04-063_P5140019
B-04-064	Looking upstream from bridge crossing	95	B-04-064_P5140020
B-04-064	Looking downstream from bridge crossing	270	B-04-064_P5140021
B-04-065	Looking upstream from bend	270	B-04-065_P5170001
B-04-065	Looking downstream from bend	0	B-04-065_P5170002
B-04-065	Looking east along roadside to Big Grass Marsh	N/A	B-04-065_P5170003
B-04-066	Looking upstream from middle of reach	270	B-04-066_P5170004
B-04-066	Looking downstream from middle of reach	90	B-04-066_P5170005
B-04-067	Looking upstream from culvert crossing	270	B-04-067_P5170006
B-04-067	Looking downstream from culvert crossing	90	B-04-067_P5170007
B-04-067	Looking upstream at culvert outlets	N/A	B-04-067_P5170008
B-04-068	Looking upstream from bridge crossing	270	B-04-068_P5170009
B-04-068	Looking downstream from bridge crossing	90	B-04-068_P5170010
B-04-069	Looking upstream from culvert crossing	290	B-04-069_P5180001
B-04-069	Looking downstream from culvert crossing	95	B-04-069_P5180002
B-04-069	Looking upstream at culvert outlet	N/A	B-04-069_P5180003
B-04-069	Looking at pond filled by backflow	5	B-04-069_P5180004
B-04-069	Looking at pond filled by backflow	310	B-04-069_P5180005
B-04-069	Looking at pond filled by backflow	295	B-04-069_P5180006
B-04-069	Looking at pond outlet	N/A	B-04-069_P5180007
B-04-071	Looking upstream from bridge crossing	50	B-04-071_P5180008
B-04-071	Looking downstream from bridge crossing	210	B-04-071_P5180009
B-04-072	Looking upstream from constructed riffle	180	B-04-072_P5180010
B-04-072	Looking downstream from constructed riffle	360	B-04-072_P5180011
B-04-072	Looking across area	250	B-04-072_P5180012
B-04-073	Looking south across drop structure	180	B-04-073_P5190001
B-04-073	Looking upstream from drop structure	270	B-04-073_P5190002
B-04-073	Looking downstream from drop structure	90	B-04-073_P5190003

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-073	Looking upstream from drop structure	270	B-04-073_P5190004
B-04-074	Looking upstream from middle of reach	270	B-04-074_P5190005
B-04-074	Looking downstream from middle of reach	90	B-04-074_P5190006
B-04-075	Looking upstream from middle of reach	200	B-04-075_P5200001
B-04-075	Looking downstream from middle of reach	340	B-04-075_P5200002
B-04-075	Looking downstream over riffle	330	B-04-075_P5200003
B-04-076	Looking upstream from middle of reach	270	B-04-076_P5200004
B-04-076	Looking downstream from middle of reach	90	B-04-076_P5200005
B-04-077	Looking upstream from culvert crossing	270	B-04-077_P5200006
B-04-077	Looking downstream from culvert crossing	90	B-04-077_P5200007
B-04-078	Looking upstream from culvert crossing	200	B-04-078_P5200008
B-04-078	Looking downstream from culvert crossing	80	B-04-078_P5200009
B-04-079	Looking upstream from culvert crossing	300	B-04-079_P5200010
B-04-079	Looking downstream from culvert crossing	20	B-04-079_P5200011
B-04-080	Looking upstream from culvert crossing	270	B-04-080_P5200012
B-04-080	Looking upstream from culvert crossing	45	B-04-080_P5200013
B-04-081	Looking upstream from culvert crossing	270	B-04-081_P5200014
B-04-081	Looking downstream from culvert crossing	0	B-04-081_P5200015
B-04-081	Looking downstream at culvert inlets	90	B-04-081_P5200016
B-04-081	Looking upstream at culvert outlets	270	B-04-081_P5200017
B-04-082	Looking upstream from culvert crossing	270	B-04-082_P5200018
B-04-082	Looking downstream from culvert crossing	90	B-04-082_P5200019
B-04-082	Looking downstream from culvert inlets	95	B-04-082_P5200020
B-04-082	Looking upstream at culvert outlets	275	B-04-082_P5200021
B-04-083	Looking upstream from culvert crossing	270	B-04-083_P5200022
B-04-083	Looking downstream from culvert crossing	90	B-04-083_P5200023
B-04-083	Looking downstream at culvert inlets	95	B-04-083_P5200024
B-04-083	Looking upstream at culvert outlets	260	B-04-083_P5200025
B-04-084	Photo of stranded Northern Pike	N/A	B-04-084_P5200026
B-04-084	Photo of stranded Northern Pike	N/A	B-04-084_P5200027
B-04-084	Photo of stranded Northern Pike	N/A	B-04-084_P5200028
B-04-084	Looking upstream from culvert crossing	270	B-04-084_P5200029
B-04-084	Looking downstream from culvert crossing	90	B-04-084_P5200030

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-084	Looking downstream at culvert inlets	135	B-04-084_P5200031
B-04-084	Looking upstream at culvert outlets	270	B-04-084_P5200032
B-04-085	Looking upstream from culvert crossing	270	B-04-085_P5200033
B-04-085	Looking downstream from culvert crossing	90	B-04-085_P5200034
B-04-085	Photo of injured Northern Pike with infection	N/A	B-04-085_P5200035
B-04-085	Photo of injured Northern Pike with infection	N/A	B-04-085_P5200036
B-04-085	Photo of injured Northern Pike with infection	N/A	B-04-085_P5200037
B-04-085	Looking at culvert inlets	N/A	B-04-085_P5200038
B-04-086	Looking upstream from bridge	270	B-04-086_P5210001
B-04-086	Looking downstream from bridge	90	B-04-086_P5210002
B-04-087	Looking at drift trap	N/A	B-04-087_P5210003
B-04-087	Looking at drift trap	N/A	B-04-087_P5210004
B-04-088	Looking upstream from road crossing	10	B-04-088_P5250001
B-04-088	Looking downstream from road crossing	190	B-04-088_P5250002
B-04-088	Looking at drift trap	N/A	B-04-088_P5250003
B-04-089	Looking upstream from road crossing	270	B-04-089_P5250004
B-04-089	Looking downstream from road crossing	90	B-04-089_P5250005
B-04-090	Looking upstream from crossing of first tributary	80	B-04-090_P5250006
B-04-090	Looking upstream from crossing of second tributary	100	B-04-090_P5250007
B-04-090	Looking downstream from crossing	270	B-04-090_P5250008
B-04-091	Looking upstream from crossing of 455	180	B-04-091_P5250009
B-04-091	Looking downstream from crossing of 455	360	B-04-091_P5250010
B-04-092	Looking upstream from bridge	345	B-04-092_P5250011
B-04-092	Looking downstream from bridge	200	B-04-092_P5250012
B-04-093	Looking upstream from bridge crossing	360	B-04-093_P5310001
B-04-093	Looking downstream from bridge crossing	200	B-04-093_P5310002
B-04-094	Looking upstream from bridge crossing	90	B-04-094_P5310003
B-04-094	Looking downstream from bridge crossing	270	B-04-094_P5310004
B-04-095	Looking upstream from bridge crossing	360	B-04-095_P5310005
B-04-095	Looking downstream from bridge crossing	225	B-04-095_P5310006
B-04-095	Looking downstream from bridge crossing	N/A	B-04-095_P5310007
B-04-096	Looking upstream from bridge crossing	360	B-04-096_P6010001
B-04-096	Looking downstream from bridge crossing	180	B-04-096_P6010002

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-097	Looking upstream from culvert crossing	310	B-04-097_P6010003
B-04-097	Looking downstream from culvert crossing	90	B-04-097_P6010004
B-04-097	Looking at metal pipe outlets	195	B-04-097_P6010005
B-04-098	Looking upstream from culvert crossing	180	B-04-098_P6010006
B-04-098	Looking downstream from culvert crossing	280	B-04-098_P6010007
B-04-098	Looking at culvert outlets	N/A	B-04-098_P6010008
B-04-099	Looking upstream from culvert crossing	180	B-04-099_P6010009
B-04-099	Looking downstream from culvert crossing	310	B-04-099_P6010010
B-04-099	Looking at culvert outlets	N/A	B-04-099_P6010011
B-04-100	Looking upstream from culvert crossing	210	B-04-100_P6010012
B-04-100	Looking downstream from culvert crossing	10	B-04-100_P6010013
B-04-101	Looking upstream from bridge crossing	110	B-04-101_P6010014
B-04-101	Looking downstream from bridge crossing	270	B-04-101_P6010015
B-04-102	Looking upstream from bridge crossing	290	B-04-102_P6010016
B-04-102	Looking downstream from bridge crossing	155	B-04-102_P6010017
B-04-103	Looking upstream from culvert crossing	290	B-04-103_P6010018
B-04-103	Looking downstream from culvert crossing	110	B-04-103_P6010019
B-04-104	Looking upstream from bridge crossing	250	B-04-104_P6010020
B-04-104	Looking downstream from bridge crossing	100	B-04-104_P6010021
B-04-105	Looking upstream from bridge crossing	350	B-04-105_P6010022
B-04-105	Looking downstream from bridge crossing	180	B-04-105_P6010023
B-04-106	Looking upstream from culvert crossing	190	B-04-106_P6020001
B-04-106	Looking downstream from culvert crossing	270	B-04-106_P6020002
B-04-107	Looking upstream from culvert crossing	120	B-04-107_P6020003
B-04-107	Looking downstream from culvert crossing	225	B-04-107_P6020004
B-04-108	Looking upstream from culvert crossing	50	B-04-108_P6020005
B-04-108	Looking downstream from culvert crossing	190	B-04-108_P6020006
B-04-108	Looking at culvert inlets	N/A	B-04-108_P6020007
B-04-108	Looking at culvert outlets	N/A	B-04-108_P6020008
B-04-109	Looking upstream from culvert crossing	350	B-04-109_P6020009
B-04-109	Looking downstream from culvert crossing	180	B-04-109_P6020010
B-04-109	Looking at culvert outlets	N/A	B-04-109_P6020011
B-04-110	Looking upstream from culvert crossing	110	B-04-110_P6020012

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-110	Looking downstream from culvert crossing	300	B-04-110_P6020013
B-04-110	Looking across riffle and culvert outlets	N/A	B-04-110_P6020014
B-04-111	Looking upstream from road	180	B-04-111_P6020015
B-04-111	Looking downstream from road	360	B-04-111_P6020016
B-04-111	Looking at flooded river valley	N/A	B-04-111_P6020017
B-04-111	Looking at flooded river valley	N/A	B-04-111_P6020018
B-04-111	Looking at flooded river valley	N/A	B-04-111_P6020019
B-04-111	Looking at flooded river valley	N/A	B-04-111_P6020020
B-04-112	Looking upstream from cement box culvert	180	B-04-112_P6020021
B-04-112	Looking downstream from cement box culvert	360	B-04-112_P6020022
B-04-112	Looking at inlet of cement box culvert	N/A	B-04-112_P6020023
B-04-113	Looking upstream from bridge crossing	180	B-04-113_P6020024
B-04-113	Looking downstream from bridge crossing	45	B-04-113_P6020025
B-04-114	Looking upstream from cement box culvert	200	B-04-114_P6030001
B-04-114	Looking downstream from cement box culvert	20	B-04-114_P6030002
B-04-114	Looking at outflow from dam	N/A	B-04-114_P6030003
B-04-115	Looking upstream from bridge crossing	270	B-04-115_P6030004
B-04-115	Looking downstream from bridge crossing	115	B-04-115_P6030005
B-04-116	Looking upstream from cement supported metal pipe	360	B-04-116_P6030006
B-04-116	Looking downstream from cement supported metal pipe	180	B-04-116_P6030007
B-04-116	Looking at culvert outlet	N/A	B-04-116_P6030008
B-04-117	Looking upstream from bridge crossing	90	B-04-117_P6040001
B-04-117	Looking downstream from bridge crossing	270	B-04-117_P6040002
B-04-118	Looking upstream from bridge crossing	140	B-04-118_P6040003
B-04-118	Looking downstream from bridge crossing	50	B-04-118_P6040004
B-04-118	Looking downstream from bridge crossing	260	B-04-118_P6040005
B-04-119	Looking upstream from culvert crossing	170	B-04-119_P6040006
B-04-119	Looking downstream from culvert crossing	360	B-04-119_P6040007
B-04-119	Looking west across culvert outlet	N/A	B-04-119_P6040008
B-04-120	Looking downstream from bridge crossing	130	B-04-120_P6040009
B-04-120	Looking upstream from bridge crossing	300	B-04-120_P6040010
B-04-120	Looking upstream from bridge crossing	335	B-04-120_P6040011
B-04-121	Looking upstream from bridge crossing	90	B-04-121_P6040012

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-121	Looking downstream from bridge crossing	270	B-04-121_P6040013
B-04-122	Looking upstream from bridge crossing	90	B-04-122_P6040014
B-04-122	Looking downstream from bridge crossing	270	B-04-122_P6040015
B-04-123	Looking upstream from bridge crossing	100	B-04-123_P6070001
B-04-123	Looking downstream from bridge crossing	250	B-04-123_P6070002
B-04-124	Looking upstream from bridge crossing	250	B-04-124_P6070003
B-04-124	Looking downstream from bridge crossing	120	B-04-124_P6070004
B-04-125	Looking upstream from bridge crossing	180	B-04-125_P6070005
B-04-125	Looking downstream from bridge crossing	360	B-04-125_P6070006
B-04-126	Looking upstream from culvert crossing	270	B-04-126_P6080001
B-04-126	Looking downstream from culvert crossing	90	B-04-126_P6080002
B-04-126	Looking at culvert outlets	N/A	B-04-126_P6080003
B-04-126	Looking at culvert inlets	N/A	B-04-126_P6080004
B-04-127	Looking upstream from culvert crossing	160	B-04-127_P6080005
B-04-127	Looking downstream from culvert crossing	340	B-04-127_P6080006
B-04-127	Looking at culvert outlets	N/A	B-04-127_P6080007
B-04-127	Looking at culvert inlets	N/A	B-04-127_P6080008
B-04-128	Looking upstream from culvert crossing	310	B-04-128_P6080009
B-04-128	Looking downstream from culvert crossing	170	B-04-128_P6080010
B-04-128	Looking at culvert inlets	N/A	B-04-128_P6080011
B-04-128	Looking at culvert outlets	N/A	B-04-128_P6080012
B-04-129	Looking upstream from culvert crossing	170	B-04-129_P6080013
B-04-129	Looking downstream from culvert crossing	350	B-04-129_P6080014
B-04-129	Looking at culvert inlets	N/A	B-04-129_P6080015
B-04-129	Looking at culvert outlets	N/A	B-04-129_P6080016
B-04-130	Looking upstream from culvert crossing	170	B-04-130_P6090001
B-04-130	Looking downstream from culvert crossing	45	B-04-130_P6090002
B-04-130	Looking at culvert inlets	N/A	B-04-130_P6090003
B-04-130	Looking at culvert outlets	N/A	B-04-130_P6090004
B-04-131	Looking upstream from cement box culvert	180	B-04-131_P6090005
B-04-131	Looking downstream from cement box culvert	360	B-04-131_P6090006
B-04-132	Looking upstream from culvert crossing	230	B-04-132_P6090007
B-04-132	Looking downstream from culvert crossing	200	B-04-132_P6090008

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-133	Looking upstream from bridge crossing	180	B-04-133_P6090009
B-04-133	Looking downstream from bridge crossing	360	B-04-133_P6090010
B-04-134	Looking upstream from bridge crossing	180	B-04-134_P6090011
B-04-134	Looking downstream from bridge crossing	30	B-04-134_P6090012
B-04-135	Looking upstream from culvert crossing	180	B-04-135_P6090013
B-04-135	Looking downstream from culvert crossing	360	B-04-135_P6090014
B-04-136	Looking upstream from middle of reach	10	B-04-136_P6100001
B-04-136	Looking downstream from middle of reach	170	B-04-136_P6100002
B-04-137	Looking upstream from culvert crossing	110	B-04-137_P6100003
B-04-137	Looking downstream from culvert crossing	290	B-04-137_P6100004
B-04-137	Looking at culvert inlets	N/A	B-04-137_P6100005
B-04-138	Looking upstream from highway	160	B-04-138_P6100006
B-04-138	Looking downstream from highway	360	B-04-138_P6100007
B-04-139	Looking upstream from culvert crossing	180	B-04-139_P6100008
B-04-139	Looking downstream from culvert crossing	360	B-04-139_P6100009
B-04-140	Looking upstream from box-style bridge	210	B-04-140_P6140001
B-04-140	Looking downstream from box-style bridge	75	B-04-140_P6140002
B-04-140	Looking at culvert outlet	250	B-04-140_P6140003
B-04-141	Looking upstream from culvert crossing	70	B-04-141_P6140004
B-04-141	Looking downstream from culvert crossing	N/A	B-04-141_P6140005
B-04-141	Looking at culvert outlets	N/A	B-04-141_P6140006
B-04-142	Looking upstream from culvert crossing	225	B-04-142_P6140007
B-04-142	Looking downstream from culvert crossing	100	B-04-142_P6140008
B-04-142	Looking at culvert outlets	N/A	B-04-142_P6140009
B-04-142	Looking at culvert inlets	N/A	B-04-142_P6140010
B-04-143	Looking upstream from culvert crossing	270	B-04-143_P6140011
B-04-143	Looking downstream from culvert crossing	90	B-04-143_P6140012
B-04-143	Looking at culvert inlets	N/A	B-04-143_P6140013
B-04-143	Looking at culvert outlets	N/A	B-04-143_P6140014
B-04-144	Looking upstream from bridge crossing	110	B-04-144_P6150001
B-04-144	Looking downstream from bridge crossing	270	B-04-144_P6150002
B-04-145	Looking upstream from culvert crossing	175	B-04-145_P6150003
B-04-145	Looking downstream from culvert crossing	360	B-04-145_P6150004

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-145	Looking at culvert inlets	N/A	B-04-145_P6150005
B-04-145	Looking at culvert outlets	N/A	B-04-145_P6150006
B-04-146	Looking upstream from culvert crossing	200	B-04-146_P6150007
B-04-146	Looking downstream from culvert crossing	360	B-04-146_P6150008
B-04-146	Looking at culvert inlets	N/A	B-04-146_P6150009
B-04-146	Looking at culvert outlets	N/A	B-04-146_P6150010
B-04-147	Looking upstream from culvert crossing	230	B-04-147_P6150011
B-04-147	Looking downstream from culvert crossing	360	B-04-147_P6150012
B-04-147	Looking at culvert outlets	N/A	B-04-147_P6150013
B-04-147	Looking at culvert inlets	N/A	B-04-147_P6150014
B-04-148	Looking upstream from culvert crossing	180	B-04-148_P6150015
B-04-148	Looking downstream from culvert crossing	360	B-04-148_P6150016
B-04-149	Looking upstream from middle of reach	360	B-04-149_P6160001
B-04-149	Looking downstream from middle of reach	200	B-04-149_P6160002
B-04-149	Looking upstream at weir from highway	N/A	B-04-149_P6160003
B-04-149	Looking upstream from weir	180	B-04-149_P6160004
B-04-150	Looking upstream from culvert crossing	160	B-04-150_P6160005
B-04-150	Looking downstream from culvert crossing	360	B-04-150_P6160006
B-04-150	Looking at culvert outlets	N/A	B-04-150_P6160007
B-04-150	Looking at lip of cement infill	N/A	B-04-150_P6160008
B-04-150	Looking upstream through culvert	N/A	B-04-150_P6160009
B-04-151	Looking upstream from ford crossing	180	B-04-151_P6160010
B-04-151	Looking downstream from ford crossing	360	B-04-151_P6160011
B-04-152	Looking upstream from old ford crossing	90	B-04-152_P6160012
B-04-152	Looking downstream from old ford crossing	270	B-04-152_P6160013
B-04-153	Looking upstream from bridge crossing	180	B-04-153_P6160014
B-04-153	Looking downstream from bridge crossing	360	B-04-153_P6160015
B-04-153	Looking west at inflow from 3rd order tributary	290	B-04-153_P6160016
B-04-153	Looking at beaver dam from 125 m upstream of bridge	230	B-04-153_P6160017
B-04-154	Looking upstream from culvert crossing	150	B-04-154_P6160018
B-04-154	Looking downstream from culvert crossing	310	B-04-154_P6160019
B-04-155	Looking upstream from bridge crossing on highway	130	B-04-155_P6160020
B-04-155	Looking downstream from bridge crossing on highway	270	B-04-155_P6160021

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-156	Looking upstream at control structure	N/A	B-04-156_P6170001
B-04-156	Looking upstream from control structure	360	B-04-156_P6170002
B-04-156	Looking across control structure	N/A	B-04-156_P6170003
B-04-156	Looking downstream from control structure	180	B-04-156_P6170004
B-04-157	Looking upstream from culvert crossing	180	B-04-157_P6170005
B-04-157	Looking downstream from culvert crossing	360	B-04-157_P6170006
B-04-158	Looking upstream from culvert crossing	45	B-04-158_P6170007
B-04-158	Looking downstream from culvert crossing	180	B-04-158_P6170008
B-04-158	Looking at culvert outlets	N/A	B-04-158_P6170009
B-04-158	Looking at culvert inlets	N/A	B-04-158_P6170010
B-04-159	Looking upstream from bridge crossing	270	B-04-159_P6180001
B-04-159	Looking downstream from bridge crossing	90	B-04-159_P6180002
B-04-160	Looking upstream from bridge crossing	270	B-04-160_P6180003
B-04-160	Looking downstream from bridge crossing	90	B-04-160_P6180004
B-04-161	Looking upstream from bridge crossing	180	B-04-161_P6180005
B-04-161	Looking downstream from bridge crossing	360	B-04-161_P6180006
B-04-162	Looking upstream from bridge crossing	285	B-04-162_P6180007
B-04-162	Looking downstream from bridge crossing	110	B-04-162_P6180008
B-04-163	Looking upstream from bridge crossing	230	B-04-163_P6210001
B-04-163	Looking downstream from bridge crossing	45	B-04-163_P6210002
B-04-164	Looking upstream from culvert crossing	180	B-04-164_P6210003
B-04-164	Looking downstream from culvert crossing	340	B-04-164_P6210004
B-04-164	Looking at main culvert inlets	N/A	B-04-164_P6210005
B-04-164	Looking at older culvert inlets	N/A	B-04-164_P6210006
B-04-164	Looking at main culvert outlets	N/A	B-04-164_P6210007
B-04-164	Looking at older culvert outlets	N/A	B-04-164_P6210008
B-04-165	Looking upstream from bridge crossing	105	B-04-165_P6210009
B-04-165	Looking downstream from bridge crossing	260	B-04-165_P6210010
B-04-166	Looking upstream from bridge crossing	80	B-04-166_P6210011
B-04-166	Looking downstream from bridge crossing	260	B-04-166_P6210012
B-04-167	Looking upstream from bridge crossing	90	B-04-167_P6210013
B-04-167	Looking downstream from bridge crossing	270	B-04-167_P6210014
B-04-168	Looking upstream from culvert crossing	65	B-04-168_P6220001

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-168	Looking downstream from culvert crossing	180	B-04-168_P6220002
B-04-168	Looking downstream from culvert crossing	140	B-04-168_P6220003
B-04-168	Looking downstream from culvert crossing	230	B-04-168_P6220004
B-04-168	Looking at culvert outlets	N/A	B-04-168_P6220005
B-04-169	Looking upstream from culvert crossing	130	B-04-169_P6220006
B-04-169	Looking downstream from culvert crossing	330	B-04-169_P6220007
B-04-169	Looking at culvert inlets	N/A	B-04-169_P6220008
B-04-169	Looking at culvert outlets	N/A	B-04-169_P6220009
B-04-170	Looking upstream from culvert crossing	190	B-04-170_P6220010
B-04-170	Looking downstream from culvert crossing	10	B-04-170_P6220011
B-04-171	Looking upstream from ford crossing	155	B-04-171_P6220012
B-04-171	Looking downstream from ford crossing	300	B-04-171_P6220013
B-04-172	Looking upstream from bridge crossing	310	B-04-172_P6220014
B-04-172	Looking downstream from bridge crossing	110	B-04-172_P6220015
B-04-173	Looking upstream from culvert crossing	280	B-04-173_P6220016
B-04-173	Looking downstream from culvert crossing	90	B-04-173_P6220017
B-04-173	Looking at culvert inlets	N/A	B-04-173_P6220018
B-04-173	Looking at culvert outlets	N/A	B-04-173_P6220019
B-04-174	Looking upstream from culvert crossing	270	B-04-174_P6220020
B-04-174	Looking downstream from culvert crossing	135	B-04-174_P6220021
B-04-174	Looking at culvert outlets	N/A	B-04-174_P6220022
B-04-175	Looking upstream from bridge crossing	270	B-04-175_P6220023
B-04-175	Looking downstream from bridge crossing	105	B-04-175_P6220024
B-04-176	Looking upstream from bridge crossing	260	B-04-176_P6230001
B-04-176	Looking downstream from bridge crossing	300	B-04-176_P6230002
B-04-177	Looking upstream from culvert crossing	270	B-04-177_P6230003
B-04-177	Looking downstream from culvert crossing	30	B-04-177_P6230004
B-04-178	Looking upstream from bridge crossing	300	B-04-178_P6230005
B-04-178	Looking downstream from bridge crossing	105	B-04-178_P6230006
B-04-179	Looking upstream from bridge crossing	180	B-04-179_P6230007
B-04-179	Looking downstream from bridge crossing	360	B-04-179_P6230008
B-04-180	Looking upstream from culvert crossing	160	B-04-180_P6230009
B-04-180	Looking downstream from culvert crossing	330	B-04-180_P6230010

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-180	Looking upstream at culvert outlets	N/A	B-04-180_P6230011
B-04-180	Looking at culvert outlets	N/A	B-04-180_P6230012
B-04-181	Looking upstream from bridge crossing	200	B-04-181_P6280001
B-04-181	Looking downstream from bridge crossing	360	B-04-181_P6280002
B-04-182	Looking upstream from culvert crossing	270	B-04-182_P6280003
B-04-182	Looking downstream from culvert crossing	90	B-04-182_P6280004
B-04-182	Looking at culvert inlets	N/A	B-04-182_P6280005
B-04-182	Looking at culvert outlets	N/A	B-04-182_P6280006
B-04-183	Looking upstream from road	175	B-04-183_P6280007
B-04-183	Looking downstream from road	105	B-04-183_P6280008
B-04-183	Looking at 1st order tributary	300	B-04-183_P6280009
B-04-184	Looking upstream from bridge crossing	270	B-04-184_P6280010
B-04-184	Looking downstream from bridge crossing	90	B-04-184_P6280011
B-04-185	Looking upstream from culvert crossing	290	B-04-185_P6280012
B-04-185	Looking downstream from culvert crossing	135	B-04-185_P6280013
B-04-185	Looking at culvert inlets	N/A	B-04-185_P6280014
B-04-185	Looking at culvert outlets	N/A	B-04-185_P6280015
B-04-186	Looking upstream from spillway	120	B-04-186_P6290016
B-04-186	Looking across spillway	N/A	B-04-186_P6290017
B-04-186	Looking downstream from spillway	310	B-04-186_P6290018
B-04-186	Looking upstream at control structure outlet	180	B-04-186_P6290019
B-04-186	Looking downstream from base of control outlet pool	310	B-04-186_P6290020
B-04-186	Looking at the Smallmouth Bass (released)	N/A	B-04-186_P6290021
B-04-186	Looking at the Smallmouth Bass (released)	N/A	B-04-186_P6290022
B-04-186	Looking at the Smallmouth Bass (released)	N/A	B-04-186_P6290023
B-04-186	Looking at the Smallmouth Bass (released)	N/A	B-04-186_P6290024
B-04-186	Looking at the Smallmouth Bass (released)	N/A	B-04-186_P6290025
B-04-186	Looking at the White Sucker released	N/A	B-04-186_P6290026
B-04-186	Looking over reach at base of dam	360	B-04-186_P6290027
B-04-186	Looking upstream from control structure on dam	180	B-04-186_P6290028
B-04-187	Looking upstream from bottom of reach	190	B-04-187_P6290029
B-04-187	Looking downstream from bottom of reach	10	B-04-187_P6290030
B-04-188	Photo of 200mm Creek Chub	290	B-04-188_P6290031

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-188	Looking upstream from middle of reach	N/A	B-04-188_P6290032
B-04-188	Looking downstream from middle of reach	45	B-04-188_P6290033
B-04-189	Looking upstream from middle of reach	340	B-04-189_P6300001
B-04-189	Looking downstream from middle of reach	150	B-04-189_P6300002
B-04-190	Looking upstream from culvert crossing	270	B-04-190_P6300003
B-04-190	Looking downstream from culvert crossing	80	B-04-190_P6300004
B-04-191	Looking upstream from low level crossing	200	B-04-191_P7050001
B-04-191	Looking downstream from low level crossing	20	B-04-191_P7050002
B-04-191	Looking at low level crossing outlets	N/A	B-04-191_P7050003
B-04-192	Looking upstream from beaver dam	180	B-04-192_P7050004
B-04-192	Looking downstream from beaver dam	360	B-04-192_P7050005
B-04-192	Looking across beaver dam	N/A	B-04-192_P7050006
B-04-193	Looking upstream from lane	180	B-04-193_P7050007
B-04-193	Looking downstream from lane	360	B-04-193_P7050008
B-04-194	Looking upstream from culvert crossing	180	B-04-194_P7060001
B-04-194	Looking downstream from culvert crossing	360	B-04-194_P7060002
B-04-194	Looking at culvert inlets	N/A	B-04-194_P7060003
B-04-195	Looking upstream from culvert crossing	180	B-04-195_P7060004
B-04-195	Looking downstream from culvert crossing	360	B-04-195_P7060005
B-04-195	Looking at culvert inlets	N/A	B-04-195_P7060006
B-04-195	Looking at culvert outlets	N/A	B-04-195_P7060007
B-04-196	Looking upstream from bridge crossing	180	B-04-196_P7060008
B-04-196	Looking downstream from bridge crossing	260	B-04-196_P7060009
B-04-196	Looking at 210mm White Sucker (released)	N/A	B-04-196_P7060010
B-04-196	Looking at 180mm White Sucker (released)	N/A	B-04-196_P7060011
B-04-196	Looking upstream from culvert crossing	N/A	B-04-196_P7060012
B-04-196	Looking at 120mm Common Shiner (released)	90	B-04-196_P7060013
B-04-197	Looking downstream from culvert crossing	270	B-04-197_P7060014
B-04-197	Looking at culvert outlets	N/A	B-04-197_P7060015
B-04-197	Looking at culvert inlets	N/A	B-04-197_P7060016
B-04-197	Looking at 180mm White Sucker (released)	N/A	B-04-197_P7060017
B-04-197	Looking upstream from ford crossing	N/A	B-04-197_P7060018

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-197	Looking at 120mm White Sucker (released)	N/A	B-04-197_P7060019
B-04-197	Looking at 120mm Creek Chub released	N/A	B-04-197_P7060020
B-04-198	Looking at 120mm Creek Chub released	160	B-04-198_P7060021
B-04-198	Looking downstream from gravel ford crossing	10	B-04-198_P7060022
B-04-199	Looking upstream from ford crossing	190	B-04-199_P7060023
B-04-199	Looking downstream from ford crossing	360	B-04-199_P7060024
B-04-200	Looking upstream from ford crossing	100	B-04-200_P7060025
B-04-200	Looking downstream from ford crossing	270	B-04-200_P7060026
B-04-201	Looking upstream from culvert crossing	135	B-04-201_P7060027
B-04-201	Looking downstream from culvert crossing	305	B-04-201_P7060028
B-04-201	Looking at culvert inlets	N/A	B-04-201_P7060029
B-04-201	Looking at culvert outlets	N/A	B-04-201_P7060030
B-04-202	Looking upstream from culvert crossing	270	B-04-202_P7070001
B-04-202	Looking downstream from culvert crossing	90	B-04-202_P7070002
B-04-203	Looking upstream from culvert crossing	160	B-04-203_P7070003
B-04-203	Looking downstream from culvert crossing	340	B-04-203_P7070004
B-04-204	Looking upstream from culvert crossing	180	B-04-204_P7070005
B-04-204	Looking downstream from culvert crossing	360	B-04-204_P7070006
B-04-205	Looking upstream from culvert crossing	90	B-04-205_P7070007
B-04-205	Looking downstream from culvert crossing	270	B-04-205_P7070008
B-04-205	Looking at culvert inlets	N/A	B-04-205_P7070009
B-04-205	Looking at culvert outlets	N/A	B-04-205_P7070010
B-04-206	Looking upstream from culvert crossing	270	B-04-206_P7070011
B-04-206	Looking downstream from culvert crossing	50	B-04-206_P7070012
B-04-206	Looking at beaver deceiver	N/A	B-04-206_P7070013
B-04-207	Looking upstream from cement box culvert	150	B-04-207_P7070014
B-04-207	Looking downstream from cement box culvert	330	B-04-207_P7070015
B-04-208	Looking upstream from culvert crossing	180	B-04-208_P7070016
B-04-208	Looking downstream from culvert crossing	360	B-04-208_P7070017
B-04-209	Looking upstream from culvert crossing	180	B-04-209_P7070018
B-04-209	Looking downstream from culvert crossing	360	B-04-209_P7070019
B-04-210	Looking upstream from culvert crossing	150	B-04-210_P7070020
B-04-210	Looking downstream from culvert crossing	25	B-04-210_P7070021

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-211	Looking upstream from culvert crossing	100	B-04-211_P7070022
B-04-211	Looking downstream from culvert crossing	311	B-04-211_P7070023
B-04-213	Looking upstream from bridge crossing	270	B-04-213_P7070024
B-04-213	Looking downstream from bridge crossing	100	B-04-213_P7070025
B-04-214	Looking upstream from culvert crossing	180	B-04-214_P7070026
B-04-214	Looking downstream from culvert crossing	360	B-04-214_P7070027
B-04-214	Looking at culvert inlets	N/A	B-04-214_P7070028
B-04-215	Looking upstream from bridge crossing	180	B-04-215_P7070029
B-04-215	Looking downstream from bridge crossing	360	B-04-215_P7070030
B-04-216	Looking upstream from culvert crossing	100	B-04-216_P7070031
B-04-216	Looking downstream from culvert crossing	270	B-04-216_P7070032
B-04-217	Looking upstream from bridge crossing	270	B-04-217_P7080001
B-04-217	Looking downstream from bridge crossing	90	B-04-217_P7080002
B-04-218	Looking upstream from culvert crossing	300	B-04-218_P7080003
B-04-218	Looking downstream from culvert crossing	160	B-04-218_P7080004
B-04-219	Looking upstream from bridge crossing	300	B-04-219_P7080005
B-04-219	Looking downstream from bridge crossing	100	B-04-219_P7080006
B-04-220	Looking upstream from bridge crossing	300	B-04-220_P7080007
B-04-220	Looking downstream from bridge crossing	110	B-04-220_P7080008
B-04-220	Looking at 180mm Creek Chub (released)	N/A	B-04-220_P7080009
B-04-220	Looking upstream from culvert crossing	N/A	B-04-220_P7080010
B-04-220	Looking at 180mm White Sucker (released)	N/A	B-04-220_P7080011
B-04-221	Looking downstream from culvert crossing	360	B-04-221_P7080012
B-04-221	Longnose Dace in spawning condition	135	B-04-221_P7080013
B-04-222	Looking upstream from culvert crossing	120	B-04-222_P7080014
B-04-222	Looking downstream from culvert crossing	360	B-04-222_P7080015
B-04-223	Looking upstream from culvert crossing	270	B-04-223_P7090001
B-04-223	Looking downstream from culvert crossing	90	B-04-223_P7090002
B-04-223	Looking at culvert inlets	N/A	B-04-223_P7090003
B-04-223	Looking at culvert outlets	N/A	B-04-223_P7090004
B-04-224	Looking upstream from culvert crossing on PTH 10	280	B-04-224_P7130001
B-04-224	Looking downstream from culvert crossing on PTH 10	90	B-04-224_P7130002
B-04-224	Looking at culvert outlets	N/A	B-04-224_P7130003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-224	Looking upstream from crossing	N/A	B-04-224_P7130004
B-04-225	Looking at 210mm Creek Chub (released)	270	B-04-225_P7130005
B-04-225	Looking downstream from culvert crossing	90	B-04-225_P7130006
B-04-225	Looking at culvert inlets	N/A	B-04-225_P7130007
B-04-225	Looking at culvert outlets	N/A	B-04-225_P7130008
B-04-225	Looking at Common Shiner (released)	N/A	B-04-225_P7130009
B-04-226	Looking upstream from culvert crossing	270	B-04-226_P7130010
B-04-226	Looking downstream from culvert crossing	90	B-04-226_P7130011
B-04-226	Looking at culvert inlets	N/A	B-04-226_P7130012
B-04-226	Looking at culvert outlets	N/A	B-04-226_P7130013
B-04-227	Looking upstream from culvert crossing	270	B-04-227_P7130014
B-04-227	Looking downstream from culvert crossing	90	B-04-227_P7130015
B-04-228	Looking upstream from culvert crossing	360	B-04-228_P7130016
B-04-228	Looking downstream from culvert crossing	200	B-04-228_P7130017
B-04-229	Looking upstream from culvert crossing	180	B-04-229_P7140001
B-04-229	Looking downstream from culvert crossing	360	B-04-229_P7140002
B-04-229	Looking at culvert inlets	N/A	B-04-229_P7140003
B-04-229	Looking at culvert outlets	N/A	B-04-229_P7140004
B-04-230	Looking upstream from culvert crossing	180	B-04-230_P7140005
B-04-230	Looking downstream from culvert crossing	360	B-04-230_P7140006
B-04-230	Looking at culvert outlets	N/A	B-04-230_P7140007
B-04-230	Looking at culvert inlets	N/A	B-04-230_P7140008
B-04-231	Looking upstream from crossing at inflow from west 3rd order tributary	220	B-04-231_P7140009
B-04-231	Looking upstream from crossing at inflow from east 2nd order tributary	175	B-04-231_P7140010
B-04-231	Looking downstream from culvert crossing	35	B-04-231_P7140011
B-04-231	Looking at inlet of west branch	N/A	B-04-231_P7140012
B-04-231	Looking at inlet of east branch	N/A	B-04-231_P7140013
B-04-231	Looking at outlet of east branch	N/A	B-04-231_P7140014
B-04-231	Looking at outlet of west branch	N/A	B-04-231_P7140015
B-04-232	Looking upstream from bridge crossing	180	B-04-232_P7140016
B-04-232	Looking downstream from bridge crossing	360	B-04-232_P7140017
B-04-233	Looking upstream from bridge crossing	330	B-04-233_P7140018
B-04-233	Looking downstream from bridge crossing	10	B-04-233_P7140019

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-234	Looking upstream from culvert crossing on PTH 10	135	B-04-234_P7140020
B-04-234	Looking downstream from culvert crossing on PTH 10	300	B-04-234_P7140021
B-04-235	Looking upstream from culvert crossing	180	B-04-235_P7140022
B-04-235	Looking downstream from culvert crossing	360	B-04-235_P7140023
B-04-236	Looking upstream from culvert crossing	90	B-04-236_P7140024
B-04-236	Looking downstream from culvert crossing	270	B-04-236_P7140025
B-04-237	Looking upstream from culvert crossing	10	B-04-237_P7140026
B-04-237	Looking downstream from culvert crossing	215	B-04-237_P7140027
B-04-238	Looking upstream from bridge crossing	180	B-04-238_P7140028
B-04-238	Looking downstream from bridge crossing	360	B-04-238_P7140029
B-04-239	Looking upstream from culvert crossing	270	B-04-239_P7150001
B-04-239	Looking downstream from culvert crossing	90	B-04-239_P7150002
B-04-240	Looking upstream from culvert crossing	210	B-04-240_P7150003
B-04-240	Looking upstream from culvert crossing	270	B-04-240_P7150004
B-04-240	Looking upstream from culvert crossing	230	B-04-240_P7150005
B-04-240	Looking downstream from culvert crossing	95	B-04-240_P7150006
B-04-240	Looking at culvert inlets	N/A	B-04-240_P7150007
B-04-240	Looking at culvert outlets	N/A	B-04-240_P7150008
B-04-241	Looking upstream from culvert crossing	245	B-04-241_P7190009
B-04-241	Looking downstream from culvert crossing	80	B-04-241_P7190010
B-04-241	Looking at culvert inlets	N/A	B-04-241_P7190011
B-04-242	Looking upstream from culvert crossing	280	B-04-242_P7190012
B-04-242	Looking at culvert inlet	90	B-04-242_P7190013
B-04-242	Looking downstream from culvert crossing	N/A	B-04-242_P7190014
B-04-243	Looking upstream from culvert crossing	175	B-04-243_P7190015
B-04-243	Looking downstream from culvert crossing	360	B-04-243_P7190016
B-04-244	Looking upstream from bridge crossing	190	B-04-244_P7200001
B-04-244	Looking downstream from bridge crossing	15	B-04-244_P7200002
B-04-245	Looking upstream from culvert crossing	150	B-04-245_P7200003
B-04-245	Looking downstream from culvert crossing	340	B-04-245_P7200004
B-04-245	Looking at culvert outlets	N/A	B-04-245_P7200005
B-04-245	Looking at culvert inlets	N/A	B-04-245_P7200006
B-04-246	Looking upstream from culvert crossing	180	B-04-246_P7200007

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-246	Looking downstream from culvert crossing	360	B-04-246_P7200008
B-04-246	Looking at culvert inlets	N/A	B-04-246_P7200009
B-04-246	Looking at culvert outlets	N/A	B-04-246_P7200010
B-04-247	Looking upstream from bridge crossing	180	B-04-247_P7200011
B-04-247	Looking downstream from bridge crossing	360	B-04-247_P7200012
B-04-248	Looking upstream from bridge crossing	180	B-04-248_P7200013
B-04-248	Looking downstream from bridge crossing	325	B-04-248_P7200014
B-04-249	Looking upstream from culvert crossing	180	B-04-249_P7200015
B-04-249	Looking downstream from culvert crossing	360	B-04-249_P7200016
B-04-249	Looking at culvert outlets	N/A	B-04-249_P7200017
B-04-250	Photo of 5 Northern Pike (released)	180	B-04-250_P7200018
B-04-250	Looking upstream from culvert crossing	10	B-04-250_P7200019
B-04-250	Looking downstream from culvert crossing	N/A	B-04-250_P7200020
B-04-251	Looking upstream from culvert crossing	180	B-04-251_P7210001
B-04-251	Looking downstream from culvert crossing	360	B-04-251_P7210002
B-04-252	Looking upstream from culvert crossing	180	B-04-252_P7210003
B-04-252	Looking downstream from culvert crossing	360	B-04-252_P7210004
B-04-253	Looking upstream from culvert crossing	N/A	B-04-253_P7210005
B-04-253	Looking downstream from culvert crossing	N/A	B-04-253_P7210006
B-04-254	Looking upstream from culvert crossing	180	B-04-254_P7210007
B-04-254	Looking downstream from culvert crossing	360	B-04-254_P7210008
B-04-255	Looking upstream from culvert crossing	210	B-04-255_P7210009
B-04-255	Looking downstream from culvert crossing	45	B-04-255_P7210010
B-04-256	Looking upstream from bridge crossing	180	B-04-256_P7210011
B-04-256	Looking downstream from bridge crossing	360	B-04-256_P7210012
B-04-257	Looking upstream from bridge crossing	290	B-04-257_P7210013
B-04-257	Looking downstream from bridge crossing	60	B-04-257_P7210014
B-04-258	Looking upstream from culvert crossing	180	B-04-258_P7210015
B-04-258	Looking downstream from culvert crossing	360	B-04-258_P7210016
B-04-259	Looking upstream from culvert crossing	180	B-04-259_P7210017
B-04-259	Looking downstream from culvert crossing	360	B-04-259_P7210018
B-04-260	Looking upstream from bridge crossing	325	B-04-260_P7210019
B-04-260	Looking downstream from bridge crossing	130	B-04-260_P7210020

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
B-04-261	Looking upstream from bridge crossing	170	B-04-261_P7210021
B-04-261	Looking downstream from bridge crossing	360	B-04-261_P7210022
B-04-262	Looking upstream from bridge crossing	180	B-04-262_P7210023
B-04-262	Looking downstream from bridge crossing	360	B-04-262_P7210024
B-04-263	Looking upstream from culvert crossing	340	B-04-263_P7220001
B-04-263	Looking downstream from culvert crossing	150	B-04-263_P7220002
B-04-263	Looking at culvert outlets	N/A	B-04-263_P7220003
B-04-264	Looking upstream from metal pipe crossing	360	B-04-264_P7220004
B-04-264	Looking downstream from metal pipe crossing	180	B-04-264_P7220005
B-04-264	Looking at culvert outlets	N/A	B-04-264_P7220006
B-04-264	Looking at culvert inlets	N/A	B-04-264_P7220007
B-04-265	Looking upstream from culvert crossing	360	B-04-265_P7220008
B-04-265	Looking downstream from culvert crossing	180	B-04-265_P7220009
B-04-265	Looking at culvert outlets	N/A	B-04-265_P7220010
B-04-266	Looking upstream from culvert crossing	350	B-04-266_P7260001
B-04-266	Looking downstream from culvert crossing	195	B-04-266_P7260002
B-04-267	Looking upstream from dam	190	B-04-267_P8040001
B-04-267	Looking upstream from dam	125	B-04-267_P8040002
B-04-267	Looking downstream from dam	45	B-04-267_P8040003
B-04-267	Looking across dam	135	B-04-267_P8040004
B-04-268	Looking upstream from road crossing	360	B-04-268_P8040005
B-04-268	Looking downstream	180	B-04-268_P8040006
B-04-269	Looking upstream from dike	270	B-04-269_P8040007
B-04-269	Looking downstream from dike	90	B-04-269_P8040008
B-04-270	Looking upstream from bridge	270	B-04-270_P8040009
B-04-270	Looking downstream from bridge	90	B-04-270_P8040010
B-04-271	Looking upstream on Q Drain from control structure	135	B-04-271_P8040011
B-04-271	Looking upstream on Drain R from approach	180	B-04-271_P8040012
B-04-271	Looking downstream on Drain R from approach	360	B-04-271_P8040013
B-04-271	Looking downstream on Drain R/Z	10	B-04-271_P8040014
B-04-271	Looking at old channel to Pasquia from control structure	45	B-04-271_P8040015
B-04-272	Looking upstream from water control structure	180	B-04-272_P8040016
B-04-272	Looking downstream at water control structure	N/A	B-04-272_P8040017

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-272	Looking downstream from dike behind control structure	360	B-04-272_P8040018
B-04-273	Looking upstream from culvert crossing	225	B-04-273_P8050001
B-04-273	Looking downstream from crossing at confluence with B-1 Drain	45	B-04-273_P8050002
B-04-273	Looking at inlet	N/A	B-04-273_P8050003
B-04-273	Looking at outlet	N/A	B-04-273_P8050004
B-04-274	Looking upstream from culvert crossing	225	B-04-274_P8050005
B-04-274	Looking downstream from culvert crossing	45	B-04-274_P8050006
B-04-274	Looking at culvert inlets	N/A	B-04-274_P8050007
B-04-274	Looking at culvert outlets	N/A	B-04-274_P8050008
B-04-275	Looking upstream from culvert crossing	135	B-04-275_P8050009
B-04-275	Looking downstream from culvert crossing	315	B-04-275_P8050010
B-04-275	Looking at culvert inlets	N/A	B-04-275_P8050011
B-04-275	Looking at culvert outlets	N/A	B-04-275_P8050012
B-04-276	Looking upstream from pump station	180	B-04-276_P8050013
B-04-276	Looking at culvert inlets	N/A	B-04-276_P8050014
B-04-276	Looking upstream from outlet	260	B-04-276_P8050015
B-04-276	Looking at culvert outlets	N/A	B-04-276_P8050016
B-04-277	Looking upstream at Drain O from 10 m north of the drain junction	140	B-04-277_P8050017
B-04-277	Looking upstream at Drain L from culvert crossing	235	B-04-277_P8050018
B-04-277	Looking downstream from culvert crossing	350	B-04-277_P8050019
B-04-278	Looking upstream from culvert crossing	80	B-04-278_P8050020
B-04-278	Looking downstream from culvert crossing	270	B-04-278_P8050021
B-04-279	Looking upstream from crossing	350	B-04-279_P8050022
B-04-279	Looking upstream at 1st order	190	B-04-279_P8050023
B-04-279	Looking upstream at Bon Drain	10	B-04-279_P8050024
B-04-279	Looking upstream at Bon Drain	180	B-04-279_P8050025
B-04-279	Looking downstream on Drain 01	270	B-04-279_P8050026
B-04-280	Looking upstream from control structure	270	B-04-280_P8050027
B-04-280	Looking downstream from control structure	90	B-04-280_P8050028
B-04-280	Looking at control structure	N/A	B-04-280_P8050029
B-04-280	Looking upstream at downstream end of culverts	N/A	B-04-280_P8050030
B-04-281	Looking upstream from control structure	180	B-04-281_P8060001
B-04-281	Looking downstream from control structure	360	B-04-281_P8060002

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
B-04-281	Looking at culverts outlets	N/A	B-04-281_P8060003
B-04-281	Looking at culvert inlets	N/A	B-04-281_P8060004
B-04-282	Looking upstream from culvert crossing	125	B-04-282_P8060005
B-04-282	Looking downstream from culvert crossing	295	B-04-282_P8060006
B-04-282	Looking upstream at Road 8C Drain S/E (1st order)	225	B-04-282_P8060007
B-04-282	Looking upstream at the other 1st order drain	225	B-04-282_P8060008
B-04-282	Looking at culvert inlets	N/A	B-04-282_P8060009
B-04-282	Looking at culvert outlets	N/A	B-04-282_P8060010
B-04-283	Looking upstream from culvert crossing	N/A	B-04-283_P8060011
B-04-283	Looking downstream from culvert crossing	N/A	B-04-283_P8060012
B-04-284	Looking upstream from culvert crossing	N/A	B-04-284_P8060013
B-04-284	Looking downstream from culvert crossing	N/A	B-04-284_P8060014
B-04-285	Looking upstream from culvert crossing	80	B-04-285_P8060015
B-04-285	Looking downstream from culvert crossing	300	B-04-285_P8060016
B-04-286	Looking upstream from behind pump station	100	B-04-286_P8060017
B-04-286	Looking downstream from pump station	260	B-04-286_P8060018
B-04-286	Looking at culvert outlets	N/A	B-04-286_P8060019
B-04-286	Looking upstream from pump station	270	B-04-286_P8060020
B-04-286	Looking downstream at inlet of pump station	N/A	B-04-286_P8060021
B-04-287	Looking upstream from bridge crossing	180	B-04-287_P8060022
B-04-287	Looking downstream from bridge crossing	360	B-04-287_P8060023
B-04-288	Looking upstream from culvert crossing	270	B-04-288_P8060024
B-04-288	Looking downstream from culvert crossing	90	B-04-288_P8060025
D-04-001	Looking upstream through riffle	340	D-04-001_P4060001
D-04-001	Looking upstream through riffle	340	D-04-001_P4060002
D-04-001	Looking downstream through riffle	200	D-04-001_P4060003
D-04-002	Looking east across raised crossing	110	D-04-002_P4060004
D-04-002	Looking east across raised crossing	110	D-04-002_P4060005
D-04-003	Looking upstream from culvert crossing	200	D-04-003_P4150006
D-04-003	Looking downstream from culvert crossing	90	D-04-003_P4150007
D-04-003	Looking at culvert outlet	270	D-04-003_P4150008
D-04-003	Looking at culvert inlet	180	D-04-003_P4150009
D-04-004	Looking upstream from below gradient control structure (riffle)	270	D-04-004_P4150010

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-04-004	Looking downstream from below gradient control structure (riffle)	90	D-04-004_P4150011
D-04-005	Looking upstream from culvert crossing at small riffle	270	D-04-005_P4150012
D-04-005	Looking downstream from culvert crossing at small riffle	90	D-04-005_P4150013
D-04-005	Looking at culvert outlet	270	D-04-005_P4150014
D-04-005	Looking at culvert inlet	90	D-04-005_P4150015
D-04-005	Close-up photo of channel constriction	270	D-04-005_P4150016
D-04-006	Looking southwest at perched culvert outlet	220	D-04-006_P4150017
D-04-008	Looking upstream from bridge crossing	290	D-04-008_P4160018
D-04-008	Looking downstream from bridge crossing	90	D-04-008_P4160019
D-04-009	Looking upstream from below WSC weir	300	D-04-009_P4160020
D-04-009	Looking downstream from WSC weir	90	D-04-009_P4160021
D-04-010	Looking upstream from culvert crossing	110	D-04-010_P6020001
D-04-010	Looking downstream from culvert crossing	300	D-04-010_P6020002
D-04-010	Looking at culvert outlet	270	D-04-010_P6020003
D-04-010	Looking at culvert inlet	270	D-04-010_P6020004
D-04-011	Looking upstream from culvert crossing	270	D-04-011_P6020005
D-04-011	Looking downstream from culvert crossing	45	D-04-011_P6020006
D-04-011	Looking at culvert outlet	0	D-04-011_P6020007
D-04-011	Looking at culvert inlet	0	D-04-011_P6020008
D-04-012	Looking upstream from large diameter culvert crossing	90	D-04-012_P6020009
D-04-012	Looking downstream from large diameter culver crossing	260	D-04-012_P6020010
D-04-012	Looking at culvert inlet	0	D-04-012_P6020011
D-04-012	Photo of Manitou grade 8 class visit	n/a	D-04-012_P6020012
D-04-012	Photo of Manitou grade 8 class visit	n/a	D-04-012_P6020013
D-04-012	Photo of Manitou grade 8 class visit	n/a	D-04-012_P6020014
D-04-012	Photo of Manitou grade 8 class visit	n/a	D-04-012_P6020015
D-04-013	Looking upstream from PTH 5 culvert crossing	270	D-04-013_P6030001
D-04-013	Looking downstream from PTH 5 culvert crossing	90	D-04-013_P6030002
D-04-013	Looking at culvert outlet	340	D-04-013_P6030003
D-04-013	Looking at culvert inlet	160	D-04-013_P6030004
D-04-013	Looking north west at pond outlet and larval drift trap	340	D-04-013_P6030005
D-04-014	Looking east at flow over raised crossing	90	D-04-014_P6030006
D-04-015	Looking upstream from raised crossing	270	D-04-015_P6070001

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-04-015	Looking downstream from raised crossing	90	D-04-015_P6070002
D-04-015	Looking at culvert outlet	180	D-04-015_P6070003
D-04-015	Looking at culvert inlet	180	D-04-015_P6070004
D-04-016	Looking upstream from pond outlet	0	D-04-016_P6080001
D-04-016	Looking downstream from pond outlet	180	D-04-016_P6080002
D-04-017	Looking upstream from culvert crossing	270	D-04-017_P6090003
D-04-017	Looking downstream from culvert crossing	90	D-04-017_P6090004
D-04-017	Looking at culvert outlet	0	D-04-017_P6090005
D-04-017	Looking at culvert inlet	340	D-04-017_P6090006
D-04-018	Looking upstream from old road bed	180	D-04-018_P6090007
D-04-018	Looking east across breach in old road bed	90	D-04-018_P6090008
D-04-019	Looking upstream from culvert crossing	270	D-04-019_P6090009
D-04-019	Looking downstream from culvert crossing	90	D-04-019_P6090010
D-04-019	Looking at culvert outlet	0	D-04-019_P6090011
D-04-019	Looking at culvert inlet	0	D-04-019_P6090012
D-04-020	Looking upstream at pond outflow	0	D-04-020_P6100001
D-04-020	Looking downstream from pond outflow	180	D-04-020_P6100002
D-04-020	Looking upstream at north Snake Creek	270	D-04-020_P6100003
D-04-022	Looking upstream from bridge crossing	120	D-04-022_P6150001
D-04-022	Looking downstream from bridge crossing	270	D-04-022_P6150002
D-04-023	Looking upstream from bridge crossing	270	D-04-023_P6150003
D-04-023	Looking downstream from bridge crossing	90	D-04-023_P6150004
D-04-024	Looking upstream from culvert crossing	200	D-04-024_P6150005
D-04-024	Looking downstream from culvert crossing	60	D-04-024_P6150006
D-04-025	Looking upstream from culvert crossing	0	D-04-025_P6150007
D-04-025	Looking downstream from culvert crossing	180	D-04-025_P6150008
D-04-026	Looking upstream from culvert crossing	90	D-04-026_P6150009
D-04-026	Looking downstream from culvert crossing	270	D-04-026_P6150010
D-04-026	Looking at culvert outlet perched 2m	0	D-04-026_P6150011
D-04-026	Looking at culvert inlet	180	D-04-026_P6150012
D-04-027	Looking upstream from bridge crossing	300	D-04-027_P6150013
D-04-027	Looking downstream from bridge crossing	90	D-04-027_P6150014
D-04-028	Looking upstream from walking bridge	180	D-04-028_P6160001

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-04-028	Looking downstream from walking bridge	0	D-04-028_P6160002
D-04-028	Looking downstream at west bank condo development	n/a	D-04-028_P6160003
D-04-028	Looking downstream at west bank condo development	n/a	D-04-028_P6160004
D-04-028	Looking downstream at roof downspouts from condo development	n/a	D-04-028_P6160005
D-04-028	Looking at concrete riprap on east bank	n/a	D-04-028_P6160006
D-04-028	Looking downstream at concrete riprap	n/a	D-04-028_P6160007
D-04-028	Looking downstream from railway bridge	n/a	D-04-028_P6160008
D-04-028	Looking upstream from railway bridge	n/a	D-04-028_P6160009
D-04-029	Looking upstream from gradient control structure (riffle)	270	D-04-029_P6160010
D-04-029	Looking downstream from gradient control structure	90	D-04-029_P6160011
D-04-029	Looking upstream at gradient control structure	270	D-04-029_P6160012
D-04-029	Looking north at gradient control structure	0	D-04-029_P6160013
D-04-030	Looking upstream from culvert crossing	270	D-04-030_P6220001
D-04-030	Looking downstream from culvert crossing	90	D-04-030_P6220002
D-04-030	Looking at culvert outlet	n/a	D-04-030_P6220003
D-04-030	Looking at culvert inlet	n/a	D-04-030_P6220004
D-04-030	Looking downstream at beaver dam in culvert	n/a	D-04-030_P6220005
D-04-030	Looking upstream at beaver dam in culvert	n/a	D-04-030_P6220006
D-04-030	Looking upstream at beaver dam in culvert	n/a	D-04-030_P6220007
D-04-032	Looking upstream from culvert crossing	0	D-04-032_P6220008
D-04-032	Looking downstream from culvert crossing	180	D-04-032_P6220009
D-04-032	Looking south across flow over gravel road	180	D-04-032_P6220010
D-04-032	Looking at plugged culvert inlet	n/a	D-04-032_P6220011
D-04-032	Looking at culvert outlet	n/a	D-04-032_P6220012
D-04-033	Looking upstream from culver crossing	300	D-04-033_P6230001
D-04-033	Looking downstream from culvert crossing	90	D-04-033_P6230002
D-04-033	Looking at culvert outlet	n/a	D-04-033_P6230003
D-04-033	Looking at culvert inlet	n/a	D-04-033_P6230004
D-04-034	Looking upstream from old railway trestle	0	D-04-034_P6230005
D-04-034	Looking downstream from old railway trestle	180	D-04-034_P6230006
D-04-035	Looking upstream from old rail bed	220	D-04-035_P6230007
D-04-035	Looking east at old railway trestle bridge piles	90	D-04-035_P6230008
D-04-035	Looking downstream from old rail bed	40	D-04-035_P6230009

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-001	Looking upstream from bridge crossing	200	W-04-001_P5030001
W-04-001	Looking downstream from bridge crossing	20	W-04-001_P5030002
W-04-001	Looking at spawning suckers, upstream side of bridge crossing	N/A	W-04-001_P5030003
W-04-001	Looking at spawning suckers, upstream side of bridge crossing	N/A	W-04-001_P5030004
W-04-001	Looking at spawning bed 15m upstream from bridge crossing	120	W-04-001_P5030005
W-04-002	Looking upstream Manitoba House Drain from culvert crossing	240	W-04-002_P5030006
W-04-002	Looking downstream Manitoba House Drain from culvert crossing	70	W-04-002_P5030007
W-04-002	Looking upstream at downstream side of culvert crossing	300	W-04-002_P5030008
W-04-002	Looking at culverts 10m upstream	110	W-04-002_P5030009
W-04-002	Looking at dead sucker 6m downstream from culvert crossing	N/A	W-04-002_P5030010
W-04-003	Looking upstream from culvert crossing (Bluff Creek Road)	200	W-04-003_P5030011
W-04-003	Looking downstream from culvert crossing (Bluff Creek Road)	350	W-04-003_P5030012
W-04-004	Looking upstream Rochland Drain at bridge crossing (PTH 50)	180	W-04-004_P5030013
W-04-004	Looking upstream Garrioch Creek at bridge crossing (PTH 50)	200	W-04-004_P5030014
W-04-004	Looking downstream from bridge at 4th order Garrioch Creek	20	W-04-004_P5030015
W-04-004	Looking down from bridge at spawning suckers	N/A	W-04-004_P5030016
W-04-005	Photo of Julie with sucker	0	W-04-005_P5030017
W-04-005	Looking downstream at box culvert/bridge crossing (PTH 50)	90	W-04-005_P5030018
W-04-005	Looking upstream from box culvert crossing	270	W-04-005_P5030019
W-04-005	Looking downstream from box culvert crossing	90	W-04-005_P5030020
W-04-006	Looking upstream from culvert crossing	0	W-04-006_P5030021
W-04-006	Looking downstream from culvert crossing	180	W-04-006_P5030022
W-04-007	Looking upstream from culvert crossing (PR 260)	200	W-04-007_P5030023
W-04-007	Looking downstream from culvert crossing (PR 260)	80	W-04-007_P5030024
W-04-007	Looking downstream from culvert crossing (PR 260) at cattle	80	W-04-007_P5030025
W-04-007	Looking at spawning suckers	N/A	W-04-007_P5030026
W-04-007	Looking at spawning suckers	N/A	W-04-007_P5030027
W-04-007	Photo of culvert 10m upstream	80	W-04-007_P5030028
W-04-008	Looking upstream from culvert crossing	240	W-04-008_P5030029
W-04-008	Looking downstream from culvert crossing	110	W-04-008_P5030030
W-04-009	Looking upstream from right bank	270	W-04-009_P5040001
W-04-009	Looking downstream from right bank	80	W-04-009_P5040002
W-04-010	Looking upstream from culvert crossing	270	W-04-010_P5040003

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-010	Looking downstream from culvert crossing	90	W-04-010_P5040004
W-04-011	Looking upstream from culvert crossing	270	W-04-011_P5040005
W-04-011	Looking downstream from culvert crossing	90	W-04-011_P5040006
W-04-012	Looking upstream from culvert crossing	270	W-04-012_P5040007
W-04-012	Looking downstream from culvert crossing	90	W-04-012_P5040008
W-04-012	Looking downstream from 10m upstream of culvert crossing	60	W-04-012_P5040009
W-04-013	Looking upstream from culvert crossing	0	W-04-013_P5040010
W-04-013	Looking downstream from culvert crossing	90	W-04-013_P5040011
W-04-014	Looking upstream from culvert crossing	270	W-04-014_P5040012
W-04-014	Looking downstream from culvert crossing	90	W-04-014_P5040013
W-04-015	Looking upstream from 5m downstream of culvert crossing	260	W-04-015_P5040014
W-04-015	Looking downstream from 5m downstream of culvert crossing	80	W-04-015_P5040015
W-04-015	Looking at burnt banks & old culvert	210	W-04-015_P5040016
W-04-015	Looking from culvert crossing (gravel road) looking at pool	350	W-04-015_P5040017
W-04-016	Looking upstream from culvert crossing	270	W-04-016_P5040018
W-04-016	Looking downstream from culvert crossing	90	W-04-016_P5040019
W-04-017	Looking upstream from culvert crossing	260	W-04-017_P5040020
W-04-017	Looking downstream from culvert crossing	85	W-04-017_P5040021
W-04-018	Looking upstream from culvert crossing	230	W-04-018_P5040022
W-04-018	Looking downstream from culvert crossing	60	W-04-018_P5040023
W-04-019	Looking upstream from culvert crossing	170	W-04-019_P5040024
W-04-019	Looking downstream from culvert crossing	350	W-04-019_P5040025
W-04-020	Looking upstream from box culvert crossing	270	W-04-020_P5050001
W-04-020	Looking downstream from box culvert crossing	325	W-04-020_P5050002
W-04-021	Looking upstream from culvert crossing (PR 227)	170	W-04-021_P5050003
W-04-021	Looking downstream from culvert crossing (PR 227)	350	W-04-021_P5050004
W-04-021	Looking further downstream from culvert crossing	270	W-04-021_P5050005
W-04-021	Looking further upstream from culvert crossing	155	W-04-021_P5050006
W-04-022	Looking upstream from culvert crossing	180	W-04-022_P5050007
W-04-022	Looking downstream from culvert crossing	0	W-04-022_P5050008
W-04-022	Looking at east side view of culverts at riprap (downstream)	240	W-04-022_P5050009
W-04-022	Looking at east side view of culverts at riprap (upstream)	270	W-04-022_P5050010
W-04-023	Looking upstream from culvert crossing	180	W-04-023_P5050011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-023	Looking downstream from culvert crossing	0	W-04-023_P5050012
W-04-024	Looking upstream from north bank shore	180	W-04-024_P5050013
W-04-024	Looking downstream from north bank shore	340	W-04-024_P5050014
W-04-025	Looking upstream from culvert crossing	180	W-04-025_P5050015
W-04-025	Looking downstream from culvert crossing	0	W-04-025_P5050016
W-04-025	Looking at closed gated culverts on downstream end of culvert	N/A	W-04-025_P5050017
W-04-026	Looking upstream from culvert crossing	180	W-04-026_P5050018
W-04-026	Looking downstream from culvert crossing	0	W-04-026_P5050019
W-04-026	Looking down at gated culvert on downstream side	N/A	W-04-026_P5050020
W-04-027	Looking upstream from culvert crossing (PR 227)	140	W-04-027_P5050021
W-04-027	Looking downstream from culvert crossing (PR 227)	0	W-04-027_P5050022
W-04-028	Looking upstream from culvert crossing	120	W-04-028_P5050023
W-04-028	Looking downstream from culvert crossing	260	W-04-028_P5050024
W-04-028	Looking at cows with access to channel downstream side	270	W-04-028_P5050025
W-04-029	Looking upstream from culvert crossing	180	W-04-029_P5060001
W-04-029	Looking downstream from culvert crossing	0	W-04-029_P5060002
W-04-030	Looking upstream from culvert crossing	200	W-04-030_P5060003
W-04-030	Looking downstream from culvert crossing	0	W-04-030_P5060004
W-04-031	Looking upstream from culvert crossing	200	W-04-031_P5060005
W-04-031	Looking downstream form culvert crossing	95	W-04-031_P5060006
W-04-032	Looking upstream from box culvert crossing	180	W-04-032_P5060007
W-04-032	Looking downstream from box culvert crossing	0	W-04-032_P5060008
W-04-033	Looking upstream from culvert crossing	170	W-04-033_P5060009
W-04-033	Looking downstream from culvert crossing	330	W-04-033_P5060010
W-04-034	Looking upstream from culvert crossing	250	W-04-034_P5060011
W-04-034	Looking downstream from culvert crossing	70	W-04-034_P5060012
W-04-035	Looking upstream from culvert crossing	235	W-04-035_P5060013
W-04-035	Looking downstream from culvert crossing	150	W-04-035_P5060014
W-04-035	Looking downstream 5m upstream looking at riprap & box culvert	80	W-04-035_P5060015
W-04-036	Looking upstream from culvert crossing (PR 411)	200	W-04-036_P5060016
W-04-036	Looking downstream from culvert crossing (PR 411)	0	W-04-036_P5060017
W-04-037	Looking upstream from culvert crossing	160	W-04-037_P5060018
W-04-037	Looking downstream from culvert crossing	230	W-04-037_P5060019

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-037	Looking downstream from culvert crossing from PTH 6	270	W-04-037_P5060020
W-04-038	Looking upstream from culvert crossing (PR 415)	330	W-04-038_P5060021
W-04-038	Looking downstream from culvert crossing (PR 415)	180	W-04-038_P5060022
W-04-039	Looking upstream from culvert crossing	90	W-04-039_P5100001
W-04-039	Looking downstream from culvert crossing	250	W-04-039_P5100002
W-04-039	Looking at White Sucker (released)	N/A	W-04-039_P5100003
W-04-039	Looking at White Sucker (released)	N/A	W-04-039_P5100004
W-04-039	Looking at Northern Pike (released)	N/A	W-04-039_P5100005
W-04-039	Looking at Northern Pike with very light colouration	N/A	W-04-039_P5100006
W-04-040	Looking upstream from culvert crossing	140	W-04-040_P5100007
W-04-040	Looking downstream from culvert crossing	300	W-04-040_P5100008
W-04-040	Looking at White Sucker (released)	N/A	W-04-040_P5100009
W-04-040	Looking at White Sucker (released)	N/A	W-04-040_P5100010
W-04-040	Looking at White Sucker (released)	N/A	W-04-040_P5100011
W-04-040	Looking at White Sucker (released)	N/A	W-04-040_P5100012
W-04-041	Looking upstream from east bank	320	W-04-041_P5110001
W-04-041	Looking downstream from east bank	140	W-04-041_P5110002
W-04-042	Looking upstream from culvert crossing	100	W-04-042_P5110003
W-04-042	Looking downstream from culvert crossing	290	W-04-042_P5110004
W-04-043	Looking upstream from culvert crossing	360	W-04-043_P5110005
W-04-043	Looking downstream from culvert crossing	180	W-04-043_P5110006
W-04-043	Looking at White Sucker (released)	N/A	W-04-043_P5110007
W-04-044	Looking upstream from bridge crossing	310	W-04-044_P5110008
W-04-044	Looking downstream from bridge crossing	140	W-04-044_P5110009
W-04-045	Looking upstream from culvert crossing	340	W-04-045_P5110010
W-04-045	Looking downstream from culvert crossing	170	W-04-045_P5110011
W-04-046	Looking upstream from culvert crossing	0	W-04-046_P5110012
W-04-046	Looking downstream from culvert crossing	180	W-04-046_P5110013
W-04-047	Looking upstream from culvert crossing	345	W-04-047_P5110014
W-04-047	Looking downstream from culvert crossing	210	W-04-047_P5110015
W-04-048	Looking upstream from culvert crossing	0	W-04-048_P5110016
W-04-048	Looking downstream from culvert crossing	180	W-04-048_P5110017
W-04-049	Looking upstream from culvert crossing	0	W-04-049_P5110018

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-049	Looking downstream from culvert crossing	180	W-04-049_P5110019
W-04-050	Looking upstream 2nd order (east) from mid channel	90	W-04-050_P5110020
W-04-050	Looking upstream 2nd order (west) from mid channel	270	W-04-050_P5110021
W-04-050	Looking downstream 3rd order from culvert crossing	180	W-04-050_P5110022
W-04-050	Looking upstream at perched culverts	20	W-04-050_P5110023
W-04-051	Looking upstream from bridge crossing	300	W-04-051_P5120001
W-04-051	Looking downstream from bridge crossing	180	W-04-051_P5120002
W-04-051	looking at White Sucker (released)	N/A	W-04-051_P5120003
W-04-052	Looking at cattle	30	W-04-052_P5120004
W-04-052	Looking downstream from bridge crossing	180	W-04-052_P5120005
W-04-053	Looking upstream from bridge crossing	130	W-04-053_P5180001
W-04-053	Looking downstream from bridge crossing	270	W-04-053_P5180002
W-04-054	Looking upstream from bridge crossing	160	W-04-054_P5180003
W-04-054	Looking downstream from bridge crossing	330	W-04-054_P5180004
W-04-054	Looking at White Sucker (released)	N/A	W-04-054_P5180005
W-04-054	Looking at White Sucker (released)	N/A	W-04-054_P5180006
W-04-054	Photo of 2nd sucker (moving)	N/A	W-04-054_P5180007
W-04-054	Photo of 2nd sucker (moving)	N/A	W-04-054_P5180008
W-04-054	Looking at White Sucker (released)	N/A	W-04-054_P5180009
W-04-055	Looking upstream from culvert crossing	180	W-04-055_P5180010
W-04-055	Looking downstream from culvert crossing	0	W-04-055_P5180011
W-04-056	Looking upstream from culvert crossing	180	W-04-056_P5180012
W-04-056	Looking downstream from culvert crossing	0	W-04-056_P5180013
W-04-057	Looking upstream from culvert crossing	160	W-04-057_P5180014
W-04-057	Looking downstream from culvert crossing	0	W-04-057_P5180015
W-04-058	Looking upstream from culvert crossing	180	W-04-058_P5180016
W-04-058	Looking downstream from culvert crossing	25	W-04-058_P5180017
W-04-059	Looking upstream from culvert crossing	180	W-04-059_P5200001
W-04-059	Looking downstream from culvert crossing	0	W-04-059_P5200002
W-04-060	Looking upstream from bridge crossing	50	W-04-060_P5200003
W-04-060	Looking upstream from bridge crossing	180	W-04-060_P5200004
W-04-060	Looking downstream from bridge crossing	0	W-04-060_P5200005
W-04-060	Looking downstream from bridge crossing	250	W-04-060_P5200006

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-061	Looking upstream from culvert crossing	90	W-04-061_P5200007
W-04-061	Looking downstream from culvert crossing	180	W-04-061_P5200008
W-04-062	Looking upstream from culvert crossing	110	W-04-062_P5200009
W-04-062	Looking downstream from culvert crossing	285	W-04-062_P5200010
W-04-063	Looking upstream from culvert crossing	100	W-04-063_P5200011
W-04-063	Looking downstream from culvert crossing	270	W-04-063_P5200012
W-04-064	Looking upstream from culvert crossing	180	W-04-064_P5200013
W-04-064	Looking downstream from culvert crossing	325	W-04-064_P5200014
W-04-065	Looking upstream from culvert crossing	180	W-04-065_P5200015
W-04-065	Looking downstream from culvert crossing	0	W-04-065_P5200016
W-04-066	Looking upstream from culvert crossing	180	W-04-066_P5200017
W-04-066	Looking downstream from culvert crossing	0	W-04-066_P5200018
W-04-067	Looking upstream from culvert crossing	90	W-04-067_P5200019
W-04-067	Looking downstream from culvert crossing	270	W-04-067_P5200020
W-04-068	Looking upstream from right grass bank east side	140	W-04-068_P5200021
W-04-068	Looking downstream from right grass bank east side	0	W-04-068_P5200022
W-04-068	Looking at cattle	120	W-04-068_P5200023
W-04-068	Looking at cattle	70	W-04-068_P5200024
W-04-069	Looking upstream from culvert crossing	90	W-04-069_P5210001
W-04-069	Looking downstream from culvert crossing	270	W-04-069_P5210002
W-04-070	Looking upstream from culvert crossing	90	W-04-070_P5210003
W-04-070	Looking downstream from culvert crossing	270	W-04-070_P5210004
W-04-071	Looking upstream from culvert crossing	110	W-04-071_P5210005
W-04-071	Looking downstream from culvert crossing	270	W-04-071_P5210006
W-04-072	Looking upstream from bridge crossing (PR 207)	0	W-04-072_P5250001
W-04-072	Looking directly down at riffle	N/A	W-04-072_P5250002
W-04-072	Looking downstream from bridge crossing (PR 207)	180	W-04-072_P5250003
W-04-072	Looking downstream at bank slump 50 m downstream from bridge	180	W-04-072_P5250004
W-04-073	Looking upstream from culvert crossing (PR 207)	0	W-04-073_P5250005
W-04-073	Looking downstream from culvert crossing (PR 207)	180	W-04-073_P5250006
W-04-074	Looking upstream from bridge crossing	180	W-04-074_P5250007
W-04-074	Looking downstream from bridge crossing	0	W-04-074_P5250008
W-04-074	Looking at perched gated culverts from upstream side of bridge	110	W-04-074_P5250009

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-074	Looking at bank slump / erosion downstream from bridge	290	W-04-074_P5250010
W-04-075	Looking upstream from culvert crossing (PR 207)	180	W-04-075_P5250011
W-04-075	Looking downstream from culvert crossing (PR 207)	0	W-04-075_P5250012
W-04-076	Looking upstream from box culvert crossing (PR 207)	180	W-04-076_P5250013
W-04-076	Looking downstream from box culvert crossing (PR 207)	0	W-04-076_P5250014
W-04-077	Looking upstream from culvert crossing	270	W-04-077_P5260001
W-04-077	Looking downstream from culvert crossing	90	W-04-077_P5260002
W-04-077	Looking at culvert inlet	120	W-04-077_P5260003
W-04-077	Looking at culvert outlet	220	W-04-077_P5260004
W-04-078	Looking upstream from culvert crossing	300	W-04-078_P5260005
W-04-078	Looking downstream from culvert crossing	130	W-04-078_P5260006
W-04-078	Looking at culvert inlet	270	W-04-078_P5260007
W-04-078	Looking at culvert outlet	100	W-04-078_P5260008
W-04-078	Looking at horse in stream - upstream side of culvert	300	W-04-078_P5260009
W-04-079	Looking upstream from culvert crossing	270	W-04-079_P5260010
W-04-079	Looking downstream from culvert crossing	90	W-04-079_P5260011
W-04-079	Looking at culvert inlet	160	W-04-079_P5260012
W-04-079	Looking at culvert outlet	310	W-04-079_P5260013
W-04-080	Looking upstream Ross Creek	270	W-04-080_P5260014
W-04-080	Looking downstream Ross Creek	90	W-04-080_P5260015
W-04-080	Looking upstream 2nd order drain	0	W-04-080_P5260016
W-04-080	Looking upstream 2nd order drain	0	W-04-080_P5260017
W-04-080	Looking upstream at 3rd order drain across Ross Creek	180	W-04-080_P5260018
W-04-081	Looking upstream 10m below beaver dam	270	W-04-081_P5260019
W-04-081	Looking downstream 10m above beaver dam	90	W-04-081_P5260020
W-04-082	Looking upstream from culvert crossing (PTH 17)	0	W-04-082_P5260021
W-04-082	Looking downstream from culvert crossing (PTH 17)	180	W-04-082_P5260022
W-04-082	Looking at culvert inlet	210	W-04-082_P5260023
W-04-082	Looking at culvert outlet	300	W-04-082_P5260024
W-04-083	Looking upstream from culvert crossing	240	W-04-083_P5270001
W-04-083	Looking downstream from culvert crossing	130	W-04-083_P5270002
W-04-083	Looking at culvert inlet	40	W-04-083_P5270003
W-04-083	Looking at culvert outlet	280	W-04-083_P5270004

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-084	Looking upstream from bridge crossing (PTH 17)	300	W-04-084_P5270005
W-04-084	Looking downstream from bridge crossing (PTH 17)	160	W-04-084_P5270006
W-04-085	Looking upstream from right bank (north side)	200	W-04-085_P5280001
W-04-085	Looking downstream from right bank (north side)	90	W-04-085_P5280002
W-04-086	Looking upstream from bridge crossing	140	W-04-086_P5280003
W-04-086	Looking downstream from bridge crossing	300	W-04-086_P5280004
W-04-086	Looking further upstream from bridge crossing	160	W-04-086_P5280005
W-04-087	Looking upstream from culvert crossing	90	W-04-087_P5280006
W-04-087	Looking downstream from culvert crossing	270	W-04-087_P5280007
W-04-087	Looking at culvert inlet	270	W-04-087_P5280008
W-04-087	Looking at culvert outlet	90	W-04-087_P5280009
W-04-088	Looking upstream from culvert crossing	90	W-04-088_P5280010
W-04-088	Looking downstream from culvert crossing	270	W-04-088_P5280011
W-04-088	Looking at culvert inlet	220	W-04-088_P5280012
W-04-088	Looking at culvert outlet	120	W-04-088_P5280013
W-04-089	Looking upstream from culvert crossing	180	W-04-089_P6010001
W-04-089	Looking down at whirlpool	N/A	W-04-089_P6010002
W-04-089	Looking downstream from culvert crossing	0	W-04-089_P6010003
W-04-089	Looking down at culvert	N/A	W-04-089_P6010004
W-04-090	Looking upstream from culvert crossing	180	W-04-090_P6010005
W-04-090	Looking downstream from culvert crossing	0	W-04-090_P6010006
W-04-090	Looking at culvert inlet	0	W-04-090_P6010007
W-04-090	Looking at culvert outlet	180	W-04-090_P6010008
W-04-090	Looking at eroded right bank on downstream side of culvert for 10m	200	W-04-090_P6010009
W-04-091	Looking upstream from culvert crossing	180	W-04-091_P6010010
W-04-091	Looking downstream from culvert crossing	0	W-04-091_P6010011
W-04-091	Looking at flooded road (Balcaen Road)	90	W-04-091_P6010012
W-04-092	Looking upstream 3rd order from road at junction	120	W-04-092_P6010013
W-04-092	Looking upstream Marchand West Drain from road at junction	180	W-04-092_P6010014
W-04-092	Looking downstream Marchand West Drain from rd. at junction.	0	W-04-092_P6010015
W-04-093	Looking upstream from culvert crossing	90	W-04-093_P6010016
W-04-093	Looking downstream from culvert crossing	270	W-04-093_P6010017
W-04-093	Looking at culvert inlet	240	W-04-093_P6010018

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-093	Looking at culvert outlet	130	W-04-093_P6010019
W-04-094	Looking upstream from culvert crossing	100	W-04-094_P6020001
W-04-094	Looking upstream from culvert crossing at dam	100	W-04-094_P6020002
W-04-094	Looking downstream from culvert crossing	280	W-04-094_P6020003
W-04-094	Looking at culvert inlet	0	W-04-094_P6020007
W-04-094	Looking at culvert outlet	100	W-04-094_P6020008
W-04-095	Looking upstream from culvert crossing	0	W-04-095_P6020009
W-04-095	Looking downstream from culvert crossing	180	W-04-095_P6020010
W-04-095	Looking at culvert inlet	240	W-04-095_P6020011
W-04-095	Looking at culvert outlet	300	W-04-095_P6020012
W-04-096	Looking upstream from culvert #1 crossing	90	W-04-096_P6020013
W-04-096	Looking downstream from culvert #1 crossing	270	W-04-096_P6020014
W-04-096	Looking upstream from culvert #2 crossing	90	W-04-096_P6020015
W-04-096	Looking downstream from culvert #2 crossing	270	W-04-096_P6020016
W-04-097	Looking upstream from culvert crossing	80	W-04-097_P6020017
W-04-097	Looking downstream from culvert crossing	250	W-04-097_P6020018
W-04-097	Looking at culvert inlet	300	W-04-097_P6020019
W-04-097	Looking at culvert outlet	140	W-04-097_P6020020
W-04-098	Looking upstream from culvert crossing	120	W-04-098_P6020021
W-04-098	Looking downstream from culvert crossing	290	W-04-098_P6020022
W-04-098	Looking at culvert inlet	200	W-04-098_P6020023
W-04-098	Looking at culvert outlet	90	W-04-098_P6020024
W-04-099	Looking upstream from bridge crossing	130	W-04-099_P6020025
W-04-099	Looking downstream from bridge crossing	250	W-04-099_P6020026
W-04-099	Looking at flooded area on upstream side (south) of bridge	180	W-04-099_P6020027
W-04-099	Looking at flooded area on upstream side (north) of bridge	80	W-04-099_P6020028
W-04-099	Looking upstream from bridge 10 m downstream	50	W-04-099_P6020029
W-04-099	Looking at flooding further downstream	250	W-04-099_P6020030
W-04-100	Looking upstream from bridge crossing	0	W-04-100_P6020031
W-04-100	Looking upstream from bridge crossing	110	W-04-100_P6020032
W-04-100	Looking downstream from bridge crossing	200	W-04-100_P6020033
W-04-100	Looking downstream from bridge crossing	310	W-04-100_P6020034
W-04-101	Looking upstream from culvert crossing	130	W-04-101_P6030001

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-101	Looking downstream from culvert crossing	280	W-04-101_P6030002
W-04-101	Looking at culvert inlet	295	W-04-101_P6030003
W-04-101	Looking at culvert outlet	95	W-04-101_P6030004
W-04-102	Looking upstream from bridge crossing (PR 201)	0	W-04-102_P6030005
W-04-102	Looking downstream from bridge crossing (PR 201)	180	W-04-102_P6030006
W-04-103	Looking upstream from culvert crossing	180	W-04-103_P6030007
W-04-103	Looking downstream from culvert crossing	0	W-04-103_P6030008
W-04-103	Looking at culvert outlet	220	W-04-103_P6030009
W-04-103	Looking at culvert inlet	300	W-04-103_P6030010
W-04-104	Looking upstream from culvert crossing	280	W-04-104_P6030011
W-04-104	Looking downstream from culvert crossing	80	W-04-104_P6030012
W-04-104	Looking at whirlpool at culvert inlet	80	W-04-104_P6030013
W-04-104	Looking at culvert outlet	70	W-04-104_P6030014
W-04-104	Looking at previously dredged drain downstream side	305	W-04-104_P6030015
W-04-104	Looking at current dredged drain upstream side	110	W-04-104_P6030016
W-04-104	Looking down at whirlpool at culvert inlet	N/A	W-04-104_P6030017
W-04-104	Looking down at whirlpool at culvert inlet	N/A	W-04-104_P6030018
W-04-105	Looking upstream from culvert crossing	170	W-04-105_P6030019
W-04-105	Looking downstream from culvert crossing	330	W-04-105_P6030020
W-04-105	Looking at culvert inlet	20	W-04-105_P6030021
W-04-105	Looking at culvert outlet	130	W-04-105_P6030022
W-04-106	Looking upstream from culvert crossing	180	W-04-106_P6030023
W-04-106	Looking downstream from culvert crossing	0	W-04-106_P6030024
W-04-106	Looking at culvert inlet	45	W-04-106_P6030025
W-04-106	Looking at culvert outlet	120	W-04-106_P6030026
W-04-107	Looking upstream from bridge crossing	170	W-04-107_P6030027
W-04-107	Looking upstream at flooded right bank	230	W-04-107_P6030028
W-04-107	Looking downstream from bridge crossing	300	W-04-107_P6030029
W-04-107	Looking downstream at flooded left bank	360	W-04-107_P6030030
W-04-108	Looking upstream from culvert crossing	180	W-04-108_P6030031
W-04-108	Looking downstream from culvert crossing	0	W-04-108_P6030032
W-04-109	Looking upstream from culvert crossing	125	W-04-109_P6040001
W-04-109	Looking downstream from culvert crossing	300	W-04-109_P6040002

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-109	Looking further downstream from south downstream culvert	330	W-04-109_P6040003
W-04-109	Looking at culvert inlet	250	W-04-109_P6040004
W-04-109	Looking at culvert outlet	90	W-04-109_P6040005
W-04-110	Looking upstream bridge crossing (PR 218)	30	W-04-110_P6040006
W-04-110	Looking downstream bridge crossing (PR 218)	230	W-04-110_P6040007
W-04-111	Looking upstream from culvert crossing	280	W-04-111_P6040008
W-04-111	Looking downstream from culvert crossing	100	W-04-111_P6040009
W-04-111	Looking at culvert inlet	350	W-04-111_P6040010
W-04-111	Looking at culvert outlet	60	W-04-111_P6040011
W-04-112	Looking upstream from west bank	0	W-04-112_P6040012
W-04-112	Looking upstream from centre (40 m from either side)	0	W-04-112_P6040013
W-04-112	Looking upstream from east bank	0	W-04-112_P6040014
W-04-112	Looking downstream from east bank	180	W-04-112_P6040015
W-04-112	Looking downstream from centre - east branch	135	W-04-112_P6040016
W-04-112	Looking downstream from centre - west branch	205	W-04-112_P6040017
W-04-112	Looking downstream from west bank	190	W-04-112_P6040018
W-04-112	Looking downstream from west bank - looking at east branch	120	W-04-112_P6040019
W-04-113	Looking upstream from culvert crossing	180	W-04-113_P6050001
W-04-113	Looking downstream from culvert crossing	270	W-04-113_P6050002
W-04-113	Looking at culvert inlet	270	W-04-113_P6050003
W-04-113	Looking at culvert outlet	90	W-04-113_P6050004
W-04-113	Looking at waterfall running into 2nd order drain	90	W-04-113_P6050005
W-04-114	Looking downstream from culvert crossing	300	W-04-114_P6050006
W-04-114	Looking upstream from culvert crossing	150	W-04-114_P6050007
W-04-114	Looking at culvert outlet	110	W-04-114_P6050008
W-04-114	Looking at culvert inlet	280	W-04-114_P6050009
W-04-115	Looking upstream from culvert crossing	180	W-04-115_P6050010
W-04-115	Looking downstream from culvert crossing	0	W-04-115_P6050011
W-04-115	Looking at culvert inlet	0	W-04-115_P6050012
W-04-115	Looking at culvert outlet	180	W-04-115_P6050013
W-04-116	Looking upstream from bridge crossing	180	W-04-116_P6050014
W-04-116	Looking downstream from bridge crossing	0	W-04-116_P6050015
W-04-117	Looking upstream from culvert crossing	180	W-04-117_P6070001

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-117	Looking downstream from culvert crossing	340	W-04-117_P6070002
W-04-117	Looking at culvert inlet	340	W-04-117_P6070003
W-04-117	Looking at culvert outlet	180	W-04-117_P6070004
W-04-118	Looking upstream from culvert crossing	175	W-04-118_P6070005
W-04-118	Looking downstream from culvert crossing	20	W-04-118_P6070006
W-04-118	Looking at culvert inlet	5	W-04-118_P6070007
W-04-118	Looking at culvert outlet	185	W-04-118_P6070008
W-04-119	Looking upstream from culvert crossing	90	W-04-119_P6080001
W-04-119	Looking downstream from culvert crossing	270	W-04-119_P6080002
W-04-119	Looking at culvert inlet	300	W-04-119_P6080003
W-04-119	Looking at culvert outlet	60	W-04-119_P6080004
W-04-120	Looking upstream from culvert crossing	180	W-04-120_P6080005
W-04-120	Looking downstream from culvert crossing	0	W-04-120_P6080006
W-04-120	Looking at culvert inlet	330	W-04-120_P6080007
W-04-120	Looking at culvert outlet	160	W-04-120_P6080008
W-04-120	Looking downstream from right bank at eroded banks	0	W-04-120_P6080009
W-04-120	Looking downstream from right bank at eroded banks	0	W-04-120_P6080010
W-04-121	Looking upstream from culvert crossing	180	W-04-121_P6080011
W-04-121	Looking downstream from culvert crossing	0	W-04-121_P6080012
W-04-121	Looking at culvert inlet	35	W-04-121_P6080013
W-04-121	Looking at culvert outlet	160	W-04-121_P6080014
W-04-122	Looking upstream from culvert crossing	180	W-04-122_P6080015
W-04-122	Looking downstream from culvert crossing	0	W-04-122_P6080016
W-04-122	Looking at culvert inlet	10	W-04-122_P6080017
W-04-122	Looking at culvert outlet	130	W-04-122_P6080018
W-04-123	Looking upstream from culvert crossing	0	W-04-123_P6080019
W-04-123	Looking downstream from culvert crossing	180	W-04-123_P6080020
W-04-123	Looking at culvert inlet	180	W-04-123_P6080021
W-04-123	Looking at culvert outlet	0	W-04-123_P6080022
W-04-124	Looking upstream from right bank	180	W-04-124_P6080023
W-04-124	Looking downstream from right bank	0	W-04-124_P6080024
W-04-125	Looking upstream from culvert crossing	90	W-04-125_P6090001
W-04-125	Looking downstream from culvert crossing	270	W-04-125_P6090002

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-125	Looking at culvert inlet - Photo taken looking straight down at culvert	N/A	W-04-125_P6090003
W-04-125	Looking at culvert outlet - Photo taken looking straight down at culvert	N/A	W-04-125_P6090004
W-04-126	Looking upstream from culvert crossing	80	W-04-126_P6090005
W-04-126	Looking downstream from culvert crossing	290	W-04-126_P6090006
W-04-126	Looking at culvert inlet	0	W-04-126_P6090007
W-04-126	Looking at culvert outlet	60	W-04-126_P6090008
W-04-127	Looking upstream from culvert crossing	120	W-04-127_P6090009
W-04-127	Looking downstream from culvert crossing	300	W-04-127_P6090010
W-04-128	Looking upstream from culvert crossing	90	W-04-128_P6090011
W-04-128	Looking downstream from culvert crossing	270	W-04-128_P6090012
W-04-128	Looking at culvert inlet	230	W-04-128_P6090013
W-04-128	Looking at culvert outlet	100	W-04-128_P6090014
W-04-129	Looking upstream from culvert crossing	180	W-04-129_P6090015
W-04-129	Looking downstream from culvert crossing	270	W-04-129_P6090016
W-04-129	Looking at culvert inlet	240	W-04-129_P6090017
W-04-129	Looking at culvert outlet	60	W-04-129_P6090018
W-04-130	Looking upstream from culvert crossing	120	W-04-130_P6090019
W-04-130	Looking downstream from culvert crossing	340	W-04-130_P6090020
W-04-130	Looking at culvert inlet	0	W-04-130_P6090021
W-04-130	Looking at culvert outlet	180	W-04-130_P6090022
W-04-131	Looking upstream from culvert crossing	180	W-04-131_P6090023
W-04-131	Looking downstream from culvert crossing	0	W-04-131_P6090024
W-04-131	Looking at culvert inlet	320	W-04-131_P6090025
W-04-131	Looking at culvert outlet	160	W-04-131_P6090026
W-04-132	Looking upstream from culvert crossing	90	W-04-132_P6090027
W-04-132	Looking downstream from culvert crossing	300	W-04-132_P6090028
W-04-132	Looking at culvert inlet	270	W-04-132_P6090029
W-04-132	Looking at culvert outlet	90	W-04-132_P6090030
W-04-133	Looking upstream from culvert crossing	140	W-04-133_P6090031
W-04-133	Looking downstream from culvert crossing	290	W-04-133_P6090032
W-04-133	Looking at culvert inlet	240	W-04-133_P6090033
W-04-133	Looking at culvert outlet	140	W-04-133_P6090034
W-04-134	Looking upstream from culvert crossing	180	W-04-134_P6090035

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-134	Looking downstream from culvert crossing	0	W-04-134_P6090036
W-04-134	Looking at culvert inlet	25	W-04-134_P6090037
W-04-134	Looking at culvert outlet	150	W-04-134_P6090038
W-04-135	Looking upstream from culvert crossing	180	W-04-135_P6090039
W-04-135	Looking downstream from culvert crossing	0	W-04-135_P6090040
W-04-135	Looking at culvert outlet	180	W-04-135_P6090041
W-04-135	Looking at culvert inlet	0	W-04-135_P6090042
W-04-136	Looking upstream from culvert crossing	140	W-04-136_P6100001
W-04-136	Looking downstream from culvert crossing	240	W-04-136_P6100002
W-04-136	Looking at culvert inlet	45	W-04-136_P6100003
W-04-136	Looking at culvert outlet	270	W-04-136_P6100004
W-04-137	Looking upstream from culvert crossing	90	W-04-137_P6100005
W-04-137	Looking downstream from culvert crossing	270	W-04-137_P6100006
W-04-137	Looking further downstream from culvert crossing	270	W-04-137_P6100007
W-04-137	Looking at culvert inlet	230	W-04-137_P6100008
W-04-137	Looking at culvert outlet	90	W-04-137_P6100009
W-04-138	Looking upstream from culvert crossing	180	W-04-138_P6100010
W-04-138	Looking downstream from culvert crossing	0	W-04-138_P6100011
W-04-138	Looking at culvert inlet	0	W-04-138_P6100012
W-04-138	Looking at culvert outlet	150	W-04-138_P6100013
W-04-139	Looking upstream from culvert crossing	180	W-04-139_P6100014
W-04-139	Looking downstream from culvert crossing	0	W-04-139_P6100015
W-04-139	Looking at culvert inlet	50	W-04-139_P6100016
W-04-139	Looking at culvert outlet	120	W-04-139_P6100017
W-04-140	Looking upstream from mud road right bank (north bank)	115	W-04-140_P6100018
W-04-140	Looking downstream from mud road right bank (north bank)	260	W-04-140_P6100019
W-04-141	Looking upstream from ford crossing (flooded road)	130	W-04-141_P6100020
W-04-141	Looking downstream from ford crossing (flooded road)	0	W-04-141_P6100021
W-04-141	Looking at submerged road	120	W-04-141_P6100022
W-04-142	Looking upstream from culvert crossing	150	W-04-142_P6140001
W-04-142	Looking downstream from culvert crossing	280	W-04-142_P6140002
W-04-142	Looking at culvert inlet	230	W-04-142_P6140003
W-04-142	Looking at culvert outlet	40	W-04-142_P6140004

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-143	Looking upstream from culvert crossing	90	W-04-143_P6140005
W-04-143	Looking downstream from culvert crossing	270	W-04-143_P6140006
W-04-143	Looking at culvert inlet	115	W-04-143_P6140007
W-04-143	Looking at culvert outlet	240	W-04-143_P6140008
W-04-144	Looking upstream from culvert crossing	140	W-04-144_P6140009
W-04-144	Looking downstream from culvert crossing	320	W-04-144_P6140010
W-04-144	Looking at culvert inlet	300	W-04-144_P6140011
W-04-144	Looking at culvert outlet	100	W-04-144_P6140012
W-04-145	Looking upstream from culvert crossing	90	W-04-145_P6140013
W-04-145	Looking downstream from culvert crossing	240	W-04-145_P6140014
W-04-145	Looking at culvert inlet	230	W-04-145_P6140015
W-04-145	Looking at culvert outlet	100	W-04-145_P6140016
W-04-146	Looking upstream Kyle Drain at culvert crossing	90	W-04-146_P6140017
W-04-146	Looking downstream Kyle Drain at culvert crossing	270	W-04-146_P6140018
W-04-146	Looking at Kyle Drain culvert inlet	260	W-04-146_P6140019
W-04-146	Looking at Kyle Drain culvert outlet	95	W-04-146_P6140020
W-04-146	Looking upstream 2nd order drain at culvert crossing	90	W-04-146_P6140021
W-04-146	Looking downstream 2nd order drain at culvert crossing	270	W-04-146_P6140022
W-04-146	Looking at 2nd order culvert inlet	270	W-04-146_P6140023
W-04-146	Looking at 2nd order culvert outlet	40	W-04-146_P6140024
W-04-147	Looking upstream from culvert crossing	0	W-04-147_P6140025
W-04-147	Looking downstream from culvert crossing	180	W-04-147_P6140026
W-04-147	Looking at culvert inlet	140	W-04-147_P6140027
W-04-147	Looking at culvert outlet	0	W-04-147_P6140028
W-04-148	Looking upstream from culvert crossing	0	W-04-148_P6140029
W-04-148	Looking downstream from culvert crossing	180	W-04-148_P6140030
W-04-148	Looking at culvert inlet	180	W-04-148_P6140031
W-04-148	Looking at culvert outlet	350	W-04-148_P6140032
W-04-149	Looking upstream 2nd order #1 at culvert crossing	0	W-04-149_P6140033
W-04-149	Looking downstream 2nd order #1 at culvert crossing	180	W-04-149_P6140034
W-04-149	Looking downstream 2nd order #2 from gravel road	90	W-04-149_P6140035
W-04-149	Looking at culvert inlet	180	W-04-149_P6140036
W-04-149	Looking at culvert outlet Photo taken looking straight down at culvert	0	W-04-149_P6140037

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-149	Photo of Northern Pike	N/A	W-04-149_P6140038
W-04-149	Photo of Northern Pike	N/A	W-04-149_P6140039
W-04-150	Looking upstream from culvert crossing	90	W-04-150_P6140040
W-04-150	Looking downstream from culvert crossing	270	W-04-150_P6140041
W-04-150	Looking at culvert inlet	270	W-04-150_P6140042
W-04-150	Looking at culvert outlet	90	W-04-150_P6140043
W-04-151	Looking upstream from bridge crossing (PTH 23)	160	W-04-151_P6140044
W-04-151	Looking downstream from bridge crossing (PTH 23)	0	W-04-151_P6140045
W-04-152	Looking upstream from culvert crossing	210	W-04-152_P6150001
W-04-152	Looking downstream from culvert crossing	0	W-04-152_P6150002
W-04-152	Looking at culvert inlet	30	W-04-152_P6150003
W-04-152	Looking at culvert outlet	170	W-04-152_P6150004
W-04-152	Photo of barren soil bank on downstream side	90	W-04-152_P6150005
W-04-152	Photo of barren soil bank on upstream side	140	W-04-152_P6150006
W-04-153	Looking upstream from culvert crossing	90	W-04-153_P6150007
W-04-153	Looking downstream from culvert crossing	270	W-04-153_P6150008
W-04-153	Looking at culvert inlet	270	W-04-153_P6150009
W-04-153	Looking at culvert outlet	90	W-04-153_P6150010
W-04-154	Looking upstream from bridge crossing	130	W-04-154_P6150011
W-04-154	Looking downstream from bridge crossing	290	W-04-154_P6150012
W-04-155	Looking upstream from culvert crossing	200	W-04-155_P6150013
W-04-155	Looking downstream from culvert crossing	40	W-04-155_P6150014
W-04-156	Looking upstream from culvert crossing	110	W-04-156_P6160001
W-04-156	Looking downstream from culvert crossing	290	W-04-156_P6160002
W-04-156	Looking at culvert inlet	315	W-04-156_P6160003
W-04-156	Looking at culvert outlet	120	W-04-156_P6160004
W-04-157	Looking upstream from culvert crossing (PR 246)	80	W-04-157_P6160005
W-04-157	Looking downstream from culvert crossing (PR 246)	260	W-04-157_P6160006
W-04-157	Looking at culvert inlet	210	W-04-157_P6160007
W-04-157	Looking at culvert outlet	140	W-04-157_P6160008
W-04-158	Looking upstream from culvert crossing	130	W-04-158_P6160009
W-04-158	Looking downstream from culvert crossing	270	W-04-158_P6160010
W-04-158	Looking at culvert inlet	290	W-04-158_P6160011

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-158	Looking at culvert outlet	140	W-04-158_P6160012
W-04-159	Looking upstream from culvert crossing	220	W-04-159_P6160013
W-04-159	Looking downstream from culvert crossing	0	W-04-159_P6160014
W-04-159	Looking at culvert inlet	220	W-04-159_P6160015
W-04-159	Looking at culvert outlet	0	W-04-159_P6160016
W-04-160	Looking upstream from culvert crossing	140	W-04-160_P6160017
W-04-160	Looking downstream from culvert crossing	0	W-04-160_P6160018
W-04-160	Looking at culvert inlet	0	W-04-160_P6160019
W-04-160	Looking at culvert outlet	100	W-04-160_P6160020
W-04-161	Looking upstream from culvert crossing	120	W-04-161_P6160021
W-04-161	Looking downstream from culvert crossing	335	W-04-161_P6160022
W-04-161	Looking at culvert inlet from dike	355	W-04-161_P6160023
W-04-161	Looking at culvert outlet	180	W-04-161_P6160024
W-04-162	Looking upstream from culvert crossing	140	W-04-162_P6160025
W-04-162	Looking downstream from culvert crossing	315	W-04-162_P6160026
W-04-162	Looking at culvert inlet	350	W-04-162_P6160027
W-04-162	Looking at culvert outlet	180	W-04-162_P6160028
W-04-163	Looking upstream from bridge crossing (PR 303)	200	W-04-163_P6160029
W-04-163	Looking downstream from bridge crossing (PR 303)	315	W-04-163_P6160030
W-04-164	Looking upstream from culvert crossing (PR 200)	90	W-04-164_P6170001
W-04-164	Looking downstream from culvert crossing (PR 200)	270	W-04-164_P6170002
W-04-164	Looking at culvert outlet	90	W-04-164_P6170003
W-04-164	Looking at culvert inlet	270	W-04-164_P6170004
W-04-165	Looking upstream from culvert crossing	90	W-04-165_P6170005
W-04-165	Looking downstream from culvert crossing	270	W-04-165_P6170006
W-04-165	Looking at culvert inlet	270	W-04-165_P6170007
W-04-165	Looking at culvert outlet	90	W-04-165_P6170008
W-04-166	Looking upstream from culvert crossing	180	W-04-166_P6170009
W-04-166	Looking at dredged matter on right bank on upstream side	210	W-04-166_P6170010
W-04-166	Looking downstream from culvert crossing	300	W-04-166_P6170011
W-04-166	Looking at culvert inlet	300	W-04-166_P6170012
W-04-166	Looking at culvert outlet	150	W-04-166_P6170013
W-04-167	Looking upstream from culvert crossing	90	W-04-167_P6170014

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-167	Looking downstream from culvert crossing	270	W-04-167_P6170015
W-04-167	Looking at culvert inlet	250	W-04-167_P6170016
W-04-167	Looking at culvert outlet	115	W-04-167_P6170017
W-04-167	Looking at perched gated culvert #1 on upstream side left bank	0	W-04-167_P6170018
W-04-167	Looking at perched gated culvert #2 on upstream side right bank	180	W-04-167_P6170019
W-04-168	Looking upstream from culvert crossing	90	W-04-168_P6170020
W-04-168	Looking downstream from culvert crossing	270	W-04-168_P6170021
W-04-168	Looking at culvert inlet	270	W-04-168_P6170022
W-04-168	Looking at culvert outlet	110	W-04-168_P6170023
W-04-168	Looking at eroded bank (right bank) on downstream side	180	W-04-168_P6170024
W-04-169	Looking upstream from culvert crossing	200	W-04-169_P6170025
W-04-169	Looking downstream from culvert crossing	310	W-04-169_P6170026
W-04-169	Looking at culvert inlet	240	W-04-169_P6170027
W-04-169	Looking at culvert outlet	120	W-04-169_P6170028
W-04-170	Looking upstream from culvert crossing	110	W-04-170_P6170029
W-04-170	Looking downstream from culvert crossing	330	W-04-170_P6170030
W-04-170	Looking at culvert inlet	280	W-04-170_P6170031
W-04-170	Looking at culvert outlet	130	W-04-170_P6170032
W-04-171	Looking upstream from culvert crossing (PR 246)	90	W-04-171_P6170033
W-04-171	Looking downstream from culvert crossing (PR 246)	270	W-04-171_P6170034
W-04-171	Looking at culvert inlet	270	W-04-171_P6170035
W-04-171	Looking at culvert outlet	90	W-04-171_P6170036
W-04-172	Looking upstream from culvert crossing	90	W-04-172_P6170037
W-04-172	Looking downstream from culvert crossing	270	W-04-172_P6170038
W-04-172	Looking at culvert inlet	270	W-04-172_P6170039
W-04-172	Looking at culvert outlet	90	W-04-172_P6170040
W-04-173	Looking upstream from bridge crossing	80	W-04-173_P6180001
W-04-173	Looking downstream from bridge crossing	265	W-04-173_P6180002
W-04-174	Looking upstream from left bank	80	W-04-174_P6180003
W-04-174	Looking downstream from left bank	270	W-04-174_P6180004
W-04-175	Looking upstream from culvert crossing	160	W-04-175_P6210001
W-04-175	Looking downstream from culvert crossing	330	W-04-175_P6210002
W-04-175	Looking at culvert inlet	290	W-04-175_P6210003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-175	Looking at culvert outlet	180	W-04-175_P6210004
W-04-176	Looking upstream from edge of right bank	65	W-04-176_P6210005
W-04-176	Looking downstream from edge of right bank	290	W-04-176_P6210006
W-04-177	Looking upstream from V-notch weir (5m back)	270	W-04-177_P6210007
W-04-177	Looking upstream from V-notch weir	270	W-04-177_P6210008
W-04-177	Looking downstream from V-notch weir	90	W-04-177_P6210009
W-04-178	Looking upstream from bridge crossing	180	W-04-178_P6210010
W-04-178	Looking downstream from bridge crossing	0	W-04-178_P6210011
W-04-179	Looking upstream Gusta Drain from culvert crossing	90	W-04-179_P6220001
W-04-179	Looking downstream Main Drain #1 from culvert crossing	300	W-04-179_P6220002
W-04-179	Looking at culvert inlet	270	W-04-179_P6220003
W-04-179	Looking at culvert outlet	40	W-04-179_P6220004
W-04-180	Looking upstream from culvert crossing	90	W-04-180_P6220005
W-04-180	Looking downstream from culvert crossing	270	W-04-180_P6220006
W-04-180	Looking at culvert inlet	270	W-04-180_P6220007
W-04-180	Looking at culvert outlet	110	W-04-180_P6220008
W-04-181	Looking upstream from culvert crossing	170	W-04-181_P6220009
W-04-181	Looking downstream from culvert crossing	350	W-04-181_P6220010
W-04-181	Looking at culvert inlet	330	W-04-181_P6220011
W-04-181	Looking at culvert outlet	150	W-04-181_P6220012
W-04-182	Looking upstream from culvert crossing	260	W-04-182_P6220013
W-04-182	Looking downstream from culvert crossing	150	W-04-182_P6220014
W-04-182	Looking at culvert outlet	220	W-04-182_P6220015
W-04-182	Looking at culvert inlet	80	W-04-182_P6220016
W-04-183	Looking upstream from culvert crossing	240	W-04-183_P6220017
W-04-183	Looking downstream from culvert crossing	30	W-04-183_P6220018
W-04-183	Looking at culvert inlet	50	W-04-183_P6220019
W-04-183	Looking at culvert outlet	240	W-04-183_P6220020
W-04-184	Looking upstream from edge of right bank	180	W-04-184_P6220021
W-04-184	Looking downstream from edge of right bank	40	W-04-184_P6220022
W-04-185	Looking upstream from bridge crossing	90	W-04-185_P6230001
W-04-185	Looking downstream from bridge crossing	270	W-04-185_P6230002
W-04-186	Looking upstream Stead Drain	280	W-04-186_P6230003

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-186	Looking downstream at confluence of Stead Drain and Main Drain #1	100	W-04-186_P6230004
W-04-186	Looking at culvert inlet	90	W-04-186_P6230005
W-04-186	Looking at culvert outlet	280	W-04-186_P6230006
W-04-187	Looking upstream from culvert crossing (on dike)	260	W-04-187_P6230007
W-04-187	Looking downstream from 10m S of culvert crossing (on dike)	25	W-04-187_P6230008
W-04-187	Mistake Photo	N/A	W-04-187_P6230009
W-04-187	Looking at culvert inlet	50	W-04-187_P6230010
W-04-187	Looking at culvert outlet	220	W-04-187_P6230011
W-04-188	Looking upstream from culvert crossing	270	W-04-188_P6230012
W-04-188	Looking downstream from culvert crossing	90	W-04-188_P6230013
W-04-188	Looking at culvert outlet	310	W-04-188_P6230014
W-04-188	Looking at culvert inlet	30	W-04-188_P6230015
W-04-189	Looking upstream from culvert crossing	180	W-04-189_P6240001
W-04-189	Looking downstream from culvert crossing	0	W-04-189_P6240002
W-04-189	Looking at culvert inlet	0	W-04-189_P6240003
W-04-189	Looking at culvert outlet	180	W-04-189_P6240004
W-04-190	Looking upstream from culvert crossing	90	W-04-190_P6240005
W-04-190	Looking downstream from culvert crossing	290	W-04-190_P6240006
W-04-190	Looking at culvert outlet	130	W-04-190_P6240007
W-04-191	Looking upstream from culvert crossing	90	W-04-191_P6240008
W-04-191	Looking downstream from culvert crossing	270	W-04-191_P6240009
W-04-191	Looking at culvert inlet	200	W-04-191_P6240010
W-04-191	Looking at culvert outlet	100	W-04-191_P6240011
W-04-192	Looking upstream from culvert crossing	0	W-04-192_P6240012
W-04-192	Looking downstream from culvert crossing	200	W-04-192_P6240013
W-04-192	Looking at culvert inlet	215	W-04-192_P6240014
W-04-192	Looking at culvert outlet	0	W-04-192_P6240015
W-04-193	Looking upstream from culvert crossing	0	W-04-193_P6240016
W-04-193	Looking downstream from culvert crossing	180	W-04-193_P6240017
W-04-193	Looking at culvert inlet	180	W-04-193_P6240018
W-04-193	Looking at culvert outlet	0	W-04-193_P6240019
W-04-194	Looking upstream from culvert crossing	220	W-04-194_P6240020
W-04-194	Looking downstream from culvert crossing	40	W-04-194_P6240021

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-194	Looking at culvert inlet	40	W-04-194_P6240022
W-04-194	Looking at culvert outlet	220	W-04-194_P6240023
W-04-195	Looking upstream from culvert crossing	160	W-04-195_P6250001
W-04-195	Looking downstream from culvert crossing	0	W-04-195_P6250002
W-04-195	Looking at culvert inlet	0	W-04-195_P6250003
W-04-195	Looking at culvert outlet	180	W-04-195_P6250004
W-04-196	Looking downstream from PTH 11	250	W-04-196_P6250005
W-04-196	Looking downstream from PTH 11 (zoomed in)	250	W-04-196_P6250006
W-04-197	Looking upstream from culvert crossing	70	W-04-197_P6250007
W-04-197	Looking downstream from culvert crossing	310	W-04-197_P6250008
W-04-197	Looking at culvert inlet	220	W-04-197_P6250009
W-04-197	Looking at culvert outlet	115	W-04-197_P6250010
W-04-197	Photo of White Sucker	N/A	W-04-197_P6250011
W-04-197	Photo of bear off PTH 11	N/A	W-04-197_P6250012
W-04-197	Photo of bear off PTH 11	N/A	W-04-197_P6250013
W-04-198	Looking upstream from culvert crossing	200	W-04-198_P6290001
W-04-198	Looking downstream from culvert crossing	350	W-04-198_P6290002
W-04-198	Looking at culvert inlet	330	W-04-198_P6290003
W-04-198	Looking at culvert outlet	210	W-04-198_P6290004
W-04-199	Looking downstream from culvert crossing	0	W-04-199_P6290005
W-04-199	Looking upstream from culvert crossing	180	W-04-199_P6290006
W-04-199	Looking at culvert outlet	180	W-04-199_P6290007
W-04-199	Looking at culvert inlet	0	W-04-199_P6290008
W-04-200	Looking upstream from culvert crossing	40	W-04-200_P6290009
W-04-200	Looking downstream from culvert crossing	280	W-04-200_P6290010
W-04-200	Looking at culvert inlet	280	W-04-200_P6290011
W-04-200	Looking at culvert outlet	40	W-04-200_P6290012
W-04-201	Looking upstream from culvert crossing	180	W-04-201_P6290013
W-04-201	Looking downstream from culvert crossing	280	W-04-201_P6290014
W-04-201	Looking at culvert inlet	280	W-04-201_P6290015
W-04-201	Looking at culvert outlet	90	W-04-201_P6290016
W-04-202	Looking upstream from culvert crossing	80	W-04-202_P6290017
W-04-202	Looking downstream from culvert crossing	260	W-04-202_P6290018

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-202	Looking at culvert inlet	230	W-04-202_P6290019
W-04-202	Looking at culvert outlet	130	W-04-202_P6290020
W-04-203	Looking upstream from culvert crossing (PR 207)	90	W-04-203_P6290021
W-04-203	Looking downstream from culvert crossing (PR 207)	270	W-04-203_P6290022
W-04-203	Looking at culvert inlet	270	W-04-203_P6290023
W-04-203	Looking at culvert outlet	90	W-04-203_P6290024
W-04-204	Looking upstream from culvert crossing	70	W-04-204_P6290025
W-04-204	Looking downstream from culvert crossing	260	W-04-204_P6290026
W-04-204	Looking at culvert inlet	290	W-04-204_P6290027
W-04-204	Looking at culvert outlet	60	W-04-204_P6290028
W-04-205	Looking upstream from culvert crossing	240	W-04-205_P6290029
W-04-205	Looking downstream from culvert crossing	0	W-04-205_P6290030
W-04-205	Looking at culvert inlet	0	W-04-205_P6290031
W-04-205	Looking at culvert outlet	240	W-04-205_P6290032
W-04-206	Looking upstream from culvert crossing (PR 208)	180	W-04-206_P6290033
W-04-206	Looking downstream from culvert crossing (PR 208)	250	W-04-206_P6290034
W-04-206	Looking at culvert inlet	280	W-04-206_P6290035
W-04-206	Looking at culvert outlet	120	W-04-206_P6290036
W-04-207	Looking upstream from bridge crossing	180	W-04-207_P7050001
W-04-207	Looking downstream from bridge crossing	300	W-04-207_P7050002
W-04-208	Looking upstream from culvert crossing	140	W-04-208_P7050003
W-04-208	Looking downstream from culvert crossing	50	W-04-208_P7050004
W-04-208	Looking at culvert inlet	330	W-04-208_P7050005
W-04-208	Looking at culvert outlet	160	W-04-208_P7050006
W-04-209	Looking upstream from bridge crossing	130	W-04-209_P7050007
W-04-209	Looking downstream from bridge crossing	290	W-04-209_P7050008
W-04-210	Looking upstream from bridge crossing	180	W-04-210_P7050009
W-04-210	Looking downstream from bridge crossing	270	W-04-210_P7050010
W-04-211	Looking upstream from culvert crossing	140	W-04-211_P7050011
W-04-211	Looking downstream from culvert crossing	320	W-04-211_P7050012
W-04-211	Looking at culvert inlet	40	W-04-211_P7050013
W-04-211	Looking at culvert outlet	140	W-04-211_P7050014
W-04-211	Looking at bank slump on left bank downstream side	25	W-04-211_P7050015

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-211	Looking across drain at bank slump on right bank	290	W-04-211_P7050016
W-04-212	Looking upstream 2nd order	160	W-04-212_P7060001
W-04-212	Looking downstream 3rd order	320	W-04-212_P7060002
W-04-212	Looking at culvert inlet	300	W-04-212_P7060003
W-04-212	Looking at culvert outlet	250	W-04-212_P7060004
W-04-212	Looking upstream 3rd order #2	280	W-04-212_P7060005
W-04-213	Looking upstream from bridge crossing	135	W-04-213_P7060006
W-04-213	Looking downstream from bridge crossing	265	W-04-213_P7060007
W-04-213	Looking at woody debris from left bank upstream of bridge	265	W-04-213_P7060008
W-04-213	Photo of bank scour on downstream side (left bank)	300	W-04-213_P7060009
W-04-213	Photo of bank scour further downstream (left bank)	330	W-04-213_P7060010
W-04-214	Looking upstream from culvert crossing	180	W-04-214_P7060011
W-04-214	Looking downstream from culvert crossing	0	W-04-214_P7060012
W-04-214	Looking at culvert inlet	0	W-04-214_P7060013
W-04-214	Looking at culvert outlet	180	W-04-214_P7060014
W-04-215	Looking upstream from culvert crossing	180	W-04-215_P7060015
W-04-215	Looking downstream from culvert crossing	0	W-04-215_P7060016
W-04-215	Looking at culvert inlet	0	W-04-215_P7060017
W-04-215	Looking at culvert outlet	180	W-04-215_P7060018
W-04-216	Looking upstream from culvert crossing	110	W-04-216_P7060019
W-04-216	Looking downstream from culvert crossing	250	W-04-216_P7060020
W-04-216	Looking at culvert inlet	260	W-04-216_P7060021
W-04-216	Looking at culvert outlet	120	W-04-216_P7060022
W-04-217	Looking upstream from culvert crossing	75	W-04-217_P7060023
W-04-217	Looking downstream from culvert crossing	270	W-04-217_P7060024
W-04-217	Looking at culvert inlet	305	W-04-217_P7060025
W-04-217	Looking at culvert outlet	60	W-04-217_P7060026
W-04-218	Looking upstream bridge crossing	90	W-04-218_P7060027
W-04-218	Looking downstream bridge crossing	270	W-04-218_P7060028
W-04-219	Looking upstream from culvert crossing	90	W-04-219_P7070001
W-04-219	Looking downstream from culvert crossing	180	W-04-219_P7070002
W-04-219	Looking at culvert inlet	290	W-04-219_P7070003
W-04-219	Looking at culvert outlet	0	W-04-219_P7070004

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-220	Looking upstream from culvert crossing	0	W-04-220_P7070005
W-04-220	Looking downstream from culvert crossing	180	W-04-220_P7070006
W-04-220	Looking at culvert inlet	180	W-04-220_P7070007
W-04-220	Looking at culvert outlet	320	W-04-220_P7070008
W-04-221	Looking upstream from culvert crossing	40	W-04-221_P7070009
W-04-221	Looking downstream from culvert crossing	270	W-04-221_P7070010
W-04-221	Looking at culvert inlet	210	W-04-221_P7070011
W-04-221	Looking at culvert outlet	140	W-04-221_P7070012
W-04-222	Looking upstream from culvert crossing	90	W-04-222_P7070013
W-04-222	Looking downstream from culvert crossing	270	W-04-222_P7070014
W-04-222	Looking at culvert inlet	230	W-04-222_P7070015
W-04-222	Looking at culvert outlet	100	W-04-222_P7070016
W-04-223	Looking upstream from culvert crossing	90	W-04-223_P7070017
W-04-223	Looking downstream from culvert crossing	270	W-04-223_P7070018
W-04-223	Looking at culvert inlet	220	W-04-223_P7070019
W-04-223	Looking at culvert outlet	110	W-04-223_P7070020
W-04-224	Looking upstream from culvert crossing	90	W-04-224_P7070021
W-04-224	Looking downstream from culvert crossing	270	W-04-224_P7070022
W-04-224	Looking at culvert inlet	220	W-04-224_P7070023
W-04-224	Looking at culvert outlet	120	W-04-224_P7070024
W-04-225	Looking upstream bridge crossing	90	W-04-225_P7070025
W-04-225	Looking downstream bridge crossing	270	W-04-225_P7070026
W-04-226	Looking upstream from culvert crossing	70	W-04-226_P7070027
W-04-226	Looking downstream from culvert crossing	300	W-04-226_P7070028
W-04-226	Looking at culvert inlet	230	W-04-226_P7070029
W-04-226	Looking at culvert outlet	90	W-04-226_P7070030
W-04-227	Looking upstream from culvert crossing	270	W-04-227_P7070031
W-04-227	Looking downstream from culvert crossing	90	W-04-227_P7070032
W-04-227	Looking at culvert inlet	140	W-04-227_P7070033
W-04-227	Looking at culvert outlet	320	W-04-227_P7070034
W-04-228	Looking upstream from culvert crossing	265	W-04-228_P7070035
W-04-228	Looking downstream from culvert crossing	90	W-04-228_P7070036
W-04-228	Looking at culvert inlet	120	W-04-228_P7070037

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-228	Looking at culvert outlet	220	W-04-228_P7070038
W-04-229	Looking upstream from culvert crossing	270	W-04-229_P7070039
W-04-229	Looking downstream from culvert crossing	180	W-04-229_P7070040
W-04-229	Looking at culvert inlet	120	W-04-229_P7070041
W-04-229	Looking at culvert outlet	250	W-04-229_P7070042
W-04-230	Looking upstream from culvert crossing	270	W-04-230_P7070043
W-04-230	Looking downstream from culvert crossing	90	W-04-230_P7070044
W-04-230	Looking at culvert inlet	100	W-04-230_P7070045
W-04-230	Looking at culvert outlet	220	W-04-230_P7070046
W-04-231	Looking upstream from culvert crossing	60	W-04-231_P7080001
W-04-231	Looking downstream from culvert crossing	270	W-04-231_P7080002
W-04-231	Looking at culvert inlet	270	W-04-231_P7080003
W-04-231	Looking at culvert outlet	115	W-04-231_P7080004
W-04-232	Looking upstream from culvert crossing	90	W-04-232_P7080005
W-04-232	Looking downstream from culvert crossing	270	W-04-232_P7080006
W-04-232	Looking at culvert inlet	270	W-04-232_P7080007
W-04-232	Looking at culvert outlet	160	W-04-232_P7080008
W-04-233	Looking upstream from bridge crossing	140	W-04-233_P7130001
W-04-233	Looking downstream from bridge crossing	340	W-04-233_P7130002
W-04-234	Looking upstream from bridge crossing	170	W-04-234_P7130003
W-04-234	Looking downstream from bridge crossing	10	W-04-234_P7130004
W-04-235	Looking upstream from culvert crossing	180	W-04-235_P7130005
W-04-235	Looking downstream from culvert crossing	0	W-04-235_P7130006
W-04-235	Looking at culvert inlet	0	W-04-235_P7130007
W-04-235	Looking at culvert outlet	180	W-04-235_P7130008
W-04-236	Looking upstream from culvert crossing	260	W-04-236_P7130009
W-04-236	Looking downstream from culvert crossing	340	W-04-236_P7130010
W-04-236	Looking at culvert inlet	340	W-04-236_P7130011
W-04-236	Looking at culvert outlet	190	W-04-236_P7130012
W-04-237	Looking upstream from bridge crossing	190	W-04-237_P7130013
W-04-237	Looking downstream from bridge crossing	310	W-04-237_P7130014
W-04-238	Looking upstream from culvert crossing	290	W-04-238_P7130015
W-04-238	Looking downstream from culvert crossing	130	W-04-238_P7130016

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-238	Looking at culvert inlet	50	W-04-238_P7130017
W-04-238	Looking at culvert outlet	270	W-04-238_P7130018
W-04-239	Looking downstream from culvert crossing	90	W-04-239_P7130019
W-04-239	Looking upstream from culvert crossing	270	W-04-239_P7130020
W-04-239	Looking at culvert inlet	80	W-04-239_P7130021
W-04-239	Looking at culvert outlet	320	W-04-239_P7130022
W-04-240	Looking upstream from culvert crossing	270	W-04-240_P7140001
W-04-240	Looking upstream at beaver dam	270	W-04-240_P7140002
W-04-240	Looking downstream from culvert crossing	90	W-04-240_P7140003
W-04-240	Looking at culvert inlet	150	W-04-240_P7140004
W-04-240	Looking at culvert outlet	220	W-04-240_P7140005
W-04-241	Looking upstream from bridge crossing	270	W-04-241_P7140006
W-04-241	Looking downstream from bridge crossing	90	W-04-241_P7140007
W-04-241	Looking straight down at beaver dam #2 from bridge	N/A	W-04-241_P7140008
W-04-242	Looking upstream from bridge crossing	230	W-04-242_P7140009
W-04-242	Looking downstream from bridge crossing	110	W-04-242_P7140010
W-04-243	Looking upstream from bridge crossing	240	W-04-243_P7140011
W-04-243	Looking downstream from bridge crossing	30	W-04-243_P7140012
W-04-244	Looking upstream from culvert crossing	250	W-04-244_P7140013
W-04-244	Looking downstream from culvert crossing	120	W-04-244_P7140014
W-04-245	Looking upstream from culvert crossing	250	W-04-245_P7140015
W-04-245	Looking downstream from culvert crossing	20	W-04-245_P7140016
W-04-245	Looking at culvert outlet	270	W-04-245_P7140017
W-04-246	Looking upstream from culvert crossing	230	W-04-246_P7140018
W-04-246	Looking downstream from culvert crossing	90	W-04-246_P7140019
W-04-246	Looking at culvert inlet	90	W-04-246_P7140020
W-04-246	Looking at culvert outlet	180	W-04-246_P7140021
W-04-247	Looking upstream from culvert crossing	220	W-04-247_P7140022
W-04-247	Looking downstream from culvert crossing	30	W-04-247_P7140023
W-04-247	Looking at culvert inlet	180	W-04-247_P7140024
W-04-248	Looking upstream from culvert crossing	230	W-04-248_P7140025
W-04-248	Looking downstream from culvert crossing	80	W-04-248_P7140026
W-04-248	Looking at culvert inlet	150	W-04-248_P7140027

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-248	Looking at culvert outlet	150	W-04-248_P7140028
W-04-249	Looking upstream from culvert crossing	110	W-04-249_P7140029
W-04-249	Looking downstream from culvert crossing	305	W-04-249_P7140030
W-04-249	Looking at culvert inlet	300	W-04-249_P7140031
W-04-249	Looking at culvert outlet	135	W-04-249_P7140032
W-04-250	Looking upstream from culvert crossing	255	W-04-250_P7140033
W-04-250	Looking downstream from culvert crossing	80	W-04-250_P7140034
W-04-250	Looking at culvert inlet	130	W-04-250_P7140035
W-04-250	Looking at culvert outlet	280	W-04-250_P7140036
W-04-251	Looking upstream from culvert crossing	250	W-04-251_P7150001
W-04-251	Looking downstream from culvert crossing	60	W-04-251_P7150002
W-04-251	Looking at culvert inlet	130	W-04-251_P7150003
W-04-251	Looking at culvert outlet	305	W-04-251_P7150004
W-04-252	Looking upstream from bridge crossing	230	W-04-252_P7150005
W-04-252	Looking downstream from bridge crossing	60	W-04-252_P7150006
W-04-253	Looking upstream from culvert crossing	250	W-04-253_P7150007
W-04-253	Looking upstream from culvert crossing	225	W-04-253_P7150008
W-04-253	Looking downstream from culvert crossing	60	W-04-253_P7150009
W-04-253	Looking at culvert inlet	100	W-04-253_P7150010
W-04-253	Looking at culvert outlet	280	W-04-253_P7150011
W-04-254	Looking upstream from culvert crossing	180	W-04-254_P7150012
W-04-254	Looking downstream from culvert crossing	0	W-04-254_P7150013
W-04-254	Looking at culvert inlet	0	W-04-254_P7150014
W-04-254	Looking at culvert outlet	180	W-04-254_P7150015
W-04-255	Looking upstream from culvert crossing	95	W-04-255_P7150016
W-04-255	Looking downstream from culvert crossing	260	W-04-255_P7150017
W-04-255	Looking at culvert inlet	260	W-04-255_P7150018
W-04-255	Looking at south culvert inlet at woody debris	230	W-04-255_P7150019
W-04-255	Looking at culvert outlet	45	W-04-255_P7150020
W-04-256	Looking upstream from bridge crossing (PR 305)	180	W-04-256_P7200001
W-04-256	Looking downstream from bridge crossing (PR 305)	0	W-04-256_P7200002
W-04-257	Looking upstream from culvert crossing	270	W-04-257_P7210001
W-04-257	Looking downstream from culvert crossing	90	W-04-257_P7210002

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-257	Looking at culvert inlet	90	W-04-257_P7210003
W-04-257	Looking at culvert outlet	270	W-04-257_P7210004
W-04-258	Looking upstream from culvert crossing	250	W-04-258_P7210005
W-04-258	Looking downstream from culvert crossing	100	W-04-258_P7210006
W-04-258	Looking at culvert inlet	90	W-04-258_P7210007
W-04-258	Looking at culvert outlet	250	W-04-258_P7210008
W-04-259	Looking upstream from culvert crossing	180	W-04-259_P7210009
W-04-259	Looking downstream from culvert crossing	0	W-04-259_P7210010
W-04-259	Looking at culvert inlet	0	W-04-259_P7210011
W-04-259	Looking at culvert outlet	180	W-04-259_P7210012
W-04-260	Looking upstream from culvert crossing	230	W-04-260_P7210013
W-04-260	Looking downstream from culvert crossing	75	W-04-260_P7210014
W-04-260	Looking at culvert inlet	80	W-04-260_P7210015
W-04-260	Looking at culvert outlet	335	W-04-260_P7210016
W-04-261	Looking upstream from culvert crossing	270	W-04-261_P7210017
W-04-261	Looking downstream from culvert crossing	90	W-04-261_P7210018
W-04-261	Looking at culvert inlet	180	W-04-261_P7210019
W-04-261	Looking at culvert outlet	220	W-04-261_P7210020
W-04-262	Looking upstream from culvert crossing	295	W-04-262_P7220001
W-04-262	Looking downstream from culvert crossing	130	W-04-262_P7220002
W-04-262	Looking at culvert inlet	190	W-04-262_P7220003
W-04-262	Looking at culvert outlet	320	W-04-262_P7220004
W-04-263	Looking upstream from intersection	0	W-04-263_P7220005
W-04-263	Looking downstream from intersection	90	W-04-263_P7220006
W-04-264	Looking upstream from culvert crossing	270	W-04-264_P7220007
W-04-264	Looking downstream from culvert crossing	90	W-04-264_P7220008
W-04-264	Looking at culvert inlet	40	W-04-264_P7220009
W-04-264	Looking at culvert outlet	245	W-04-264_P7220010
W-04-265	Looking upstream from culvert crossing	0	W-04-265_P7220011
W-04-265	Looking downstream from culvert crossing	150	W-04-265_P7220012
W-04-265	Looking at culvert inlet	100	W-04-265_P7220013
W-04-265	Looking at culvert outlet	90	W-04-265_P7220014
W-04-266	Looking upstream from bridge crossing	110	W-04-266_P7220015

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-266	Looking downstream from bridge crossing	295	W-04-266_P7220016
W-04-267	Looking upstream from bridge crossing	120	W-04-267_P7220017
W-04-267	Looking downstream from bridge crossing	270	W-04-267_P7220018
W-04-268	Looking upstream from culvert crossing	310	W-04-268_P7220019
W-04-268	Looking downstream from culvert crossing	140	W-04-268_P7220020
W-04-268	Looking at culvert inlet	165	W-04-268_P7220021
W-04-269	Looking upstream from culvert crossing	130	W-04-269_P7220022
W-04-269	Looking downstream from culvert crossing	290	W-04-269_P7220023
W-04-269	Looking at culvert inlet	180	W-04-269_P7220024
W-04-269	Looking at culvert outlet	180	W-04-269_P7220025
W-04-270	Looking upstream from bridge crossing	145	W-04-270_P7220026
W-04-270	Looking downstream from bridge crossing	340	W-04-270_P7220027
W-04-271	Looking upstream from culvert crossing	180	W-04-271_P7230001
W-04-271	Looking downstream from culvert crossing	0	W-04-271_P7230002
W-04-271	Looking at culvert inlet	300	W-04-271_P7230003
W-04-271	Looking at culvert outlet	270	W-04-271_P7230004
W-04-272	Looking upstream from culvert crossing	180	W-04-272_P7230005
W-04-272	Looking downstream from culvert crossing	0	W-04-272_P7230006
W-04-272	Looking at culvert inlet	0	W-04-272_P7230007
W-04-272	Looking at culvert outlet	180	W-04-272_P7230008
W-04-273	Looking upstream from culvert crossing	0	W-04-273_P7230009
W-04-273	Looking downstream from culvert crossing	180	W-04-273_P7230010
W-04-273	Looking at culvert inlet	180	W-04-273_P7230011
W-04-273	Looking at culvert outlet	0	W-04-273_P7230012
W-04-274	Looking upstream from bridge crossing	165	W-04-274_P7230013
W-04-274	Looking downstream from bridge crossing	20	W-04-274_P7230014
W-04-275	Looking upstream from bridge crossing	280	W-04-275_P8030001
W-04-275	Looking downstream from bridge crossing	75	W-04-275_P8030002
W-04-276	Looking upstream from culvert crossing	90	W-04-276_P8030003
W-04-276	Looking downstream from culvert crossing	270	W-04-276_P8030004
W-04-276	Looking at culvert inlet	270	W-04-276_P8030005
W-04-276	Looking at culvert outlet	90	W-04-276_P8030006
W-04-277	Looking upstream from culvert crossing	250	W-04-277_P8030007

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-277	Looking downstream from culvert crossing	85	W-04-277_P8030008
W-04-277	Looking at culvert inlet	35	W-04-277_P8030009
W-04-277	Looking at culvert outlet	300	W-04-277_P8030010
W-04-278	Looking upstream from left bank	0	W-04-278_P8030011
W-04-278	Looking downstream from left bank	180	W-04-278_P8030012
W-04-279	Looking upstream from culvert crossing	340	W-04-279_P8030013
W-04-279	Looking downstream from culvert crossing	135	W-04-279_P8030014
W-04-279	Looking at culvert inlet	85	W-04-279_P8030015
W-04-279	Looking at culvert outlet	0	W-04-279_P8030016
W-04-280	Looking upstream from culvert crossing	90	W-04-280_P8030017
W-04-280	Looking downstream from culvert crossing	270	W-04-280_P8030018
W-04-280	Looking at culvert inlet	0	W-04-280_P8030019
W-04-280	Looking at culvert outlet	90	W-04-280_P8030020
W-04-281	Looking upstream from culvert crossing	260	W-04-281_P8030021
W-04-281	Looking downstream from culvert crossing	80	W-04-281_P8030022
W-04-281	Looking at culvert inlet	140	W-04-281_P8030023
W-04-281	Looking at culvert outlet	220	W-04-281_P8030024
W-04-282	Looking upstream from culvert crossing	270	W-04-282_P8030025
W-04-282	Looking downstream from culvert crossing	90	W-04-282_P8030026
W-04-282	Looking at culvert inlet	80	W-04-282_P8030027
W-04-282	Looking at culvert outlet	350	W-04-282_P8030028
W-04-283	Looking upstream from bridge crossing	270	W-04-283_P8030029
W-04-283	Looking downstream from bridge crossing	90	W-04-283_P8030030
W-04-284	Looking upstream from culvert crossing	230	W-04-284_P8030031
W-04-284	Looking downstream from culvert crossing	90	W-04-284_P8030032
W-04-284	Looking at culvert inlet	90	W-04-284_P8030033
W-04-284	Looking at culvert outlet	270	W-04-284_P8030034
W-04-285	Looking upstream from culvert crossing	60	W-04-285_P8030035
W-04-285	Looking downstream from culvert crossing	240	W-04-285_P8030036
W-04-285	Looking at culvert inlet	275	W-04-285_P8030037
W-04-285	Looking at culvert outlet	40	W-04-285_P8030038
W-04-286	Looking upstream from ford crossing	300	W-04-286_P8030039
W-04-286	Looking downstream from ford crossing	140	W-04-286_P8030040

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-04-287	Looking at culvert inlet	290	W-04-287_P8030041
W-04-287	Looking at culvert outlet	110	W-04-287_P8030042
W-04-287	Looking upstream from bridge crossing	85	W-04-287_P8030043
W-04-287	Looking downstream from bridge crossing	300	W-04-287_P8030044
W-04-287	Photo of 1st Sauger	N/A	W-04-287_P8030045
W-04-287	Photo of 1st Sauger	N/A	W-04-287_P8030046
W-04-287	Photo of 2nd Sauger	N/A	W-04-287_P8030047
W-04-287	Photo of 2nd Sauger	N/A	W-04-287_P8030048
W-04-287	Photo of 2nd Sauger	N/A	W-04-287_P8030049
W-04-287	Photo of 1st Yellow Perch	N/A	W-04-287_P8030050
W-04-287	Photo of 1st Yellow Perch	N/A	W-04-287_P8030051
W-04-287	Photo of Black Bullhead	N/A	W-04-287_P8030052
W-04-288	Looking upstream from bridge crossing	270	W-04-288_P8040001
W-04-288	Looking downstream from bridge crossing	90	W-04-288_P8040002
W-04-289	Looking upstream from left bank from bottom of riprap dam	220	W-04-289_P8040003
W-04-289	Looking downstream from left bank from bottom of riprap dam	10	W-04-289_P8040004
W-04-289	Photo of schools of bullheads at bottom of riprap dam	N/A	W-04-289_P8040005
W-04-290	Looking upstream from culvert crossing	280	W-04-290_P8040006
W-04-290	Looking downstream from culvert crossing	110	W-04-290_P8040007
W-04-290	Looking at culvert inlet	230	W-04-290_P8040008
W-04-290	Looking at culvert outlet	0	W-04-290_P8040009
W-04-291	Looking upstream from culvert crossing	220	W-04-291_P8040010
W-04-291	Looking downstream from culvert crossing	100	W-04-291_P8040011
W-04-291	Looking at culvert inlet	90	W-04-291_P8040012
W-04-291	Looking at culvert outlet	220	W-04-291_P8040013
W-04-292	Looking upstream from culvert crossing	240	W-04-292_P8040016
W-04-292	Looking downstream from culvert crossing	60	W-04-292_P8040017
W-04-292	Looking at culvert inlet	100	W-04-292_P8040018
W-04-292	Looking at culvert outlet	0	W-04-292_P8040019
W-04-293	Looking upstream from culvert crossing	300	W-04-293_P8040020
W-04-293	Looking downstream from culvert crossing	100	W-04-293_P8040021
W-04-293	Looking at culvert inlet	130	W-04-293_P8040022
W-04-293	Looking at culvert outlet	330	W-04-293_P8040023

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-294	Looking upstream from bridge crossing	270	W-04-294_P8040024
W-04-294	Photo of cows that have direct access to drain (zoomed in)	270	W-04-294_P8040025
W-04-294	Looking downstream from bridge crossing	60	W-04-294_P8040026
W-04-295	Looking upstream from culvert crossing	270	W-04-295_P8040027
W-04-295	Looking downstream from culvert crossing	90	W-04-295_P8040028
W-04-295	Looking at culvert inlet	90	W-04-295_P8040029
W-04-295	Looking at culvert outlet	270	W-04-295_P8040030
W-04-296	Looking upstream from culvert crossing	220	W-04-296_P8040031
W-04-296	Looking downstream from culvert crossing	90	W-04-296_P8040032
W-04-296	Looking at culvert inlet	90	W-04-296_P8040033
W-04-296	Looking at culvert outlet	260	W-04-296_P8040034
W-04-297	Looking upstream from culvert crossing	240	W-04-297_P8050001
W-04-297	Looking at cattle at river's edge	240	W-04-297_P8050002
W-04-297	Looking downstream from culvert crossing	85	W-04-297_P8050003
W-04-297	Looking at culvert inlet	110	W-04-297_P8050004
W-04-297	Looking at culvert outlet	220	W-04-297_P8050005
W-04-297	Photo of cows in stream	260	W-04-297_P8050006
W-04-297	Photo of cows in stream	260	W-04-297_P8050007
W-04-297	Photo of Jaime & cows	300	W-04-297_P8050008
W-04-297	Photo of Jaime & cows	300	W-04-297_P8050009
W-04-298	Looking upstream from bridge crossing	180	W-04-298_P8050010
W-04-298	Looking downstream from bridge crossing	0	W-04-298_P8050011
W-04-298	Looking downstream from bridge crossing, zoomed in on weir	0	W-04-298_P8050012
W-04-298	Looking at weir on downstream side	180	W-04-298_P8050013
W-04-299	Looking upstream from culvert crossing	210	W-04-299_P8050014
W-04-299	Looking downstream from culvert crossing	35	W-04-299_P8050015
W-04-299	Looking at culvert inlet	90	W-04-299_P8050016
W-04-299	Looking at culvert outlet	150	W-04-299_P8050017
W-04-299	Looking at cattle on right bank downstream of culvert structure	240	W-04-299_P8050018
W-04-299	Looking at cattle on left bank on downstream of culvert structure	50	W-04-299_P8050019
W-04-300	Looking upstream from bridge crossing	320	W-04-300_P8050020
W-04-300	Looking downstream from bridge crossing	120	W-04-300_P8050021
W-04-301	Looking at cows on upstream side of bridge crossing	0	W-04-301_P8050022

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-04-301	Looking downstream from bridge crossing	150	W-04-301_P8050023
X-04-001	Looking upstream from low level crossing	225	X-04-001_P5050001
X-04-001	Looking downstream from low level crossing	45	X-04-001_P5050002
X-04-001	Looking upstream at culvert outlets at low level crossing	220	X-04-001_P5050003
X-04-002	Looking upstream from dam	270	X-04-002_P5050004
X-04-002	Looking downstream from dam	90	X-04-002_P5050005
X-04-002	Looking upstream at dam	270	X-04-002_P5050006
X-04-002	Looking downstream at dam	90	X-04-002_P5050007
X-04-003	Looking upstream at control structure	270	X-04-003_P5050008
X-04-003	Looking downstream at control structure	90	X-04-003_P5050009
X-04-003	Looking upstream at control structure	270	X-04-003_P5050010
X-04-004	Looking upstream from crossing	270	X-04-004_P5050011
X-04-004	Looking downstream from crossing	90	X-04-004_P5050012
X-04-005	Looking upstream from low level crossing	270	X-04-005_P5050013
X-04-005	Looking downstream from low level crossing	90	X-04-005_P5050014
X-04-005	Looking upstream at culverts	250	X-04-005_P5050015
X-04-006	Looking upstream from crossing	270	X-04-006_P5060001
X-04-006	Looking downstream from crossing	90	X-04-006_P5060002
X-04-006	Looking upstream looking under bridge	290	X-04-006_P5060003
X-04-007	Looking upstream from crossing	270	X-04-007_P5060004
X-04-007	Looking downstream from crossing	90	X-04-007_P5060005
X-04-007	Looking upstream at culverts	250	X-04-007_P5060006
X-04-008	Looking upstream from crossing	270	X-04-008_P5060007
X-04-008	Looking downstream from crossing	90	X-04-008_P5060008
X-04-008	Looking upstream at culverts	270	X-04-008_P5060009
X-04-009	Looking upstream from crossing	270	X-04-009_P5060010
X-04-009	Looking downstream from crossing	90	X-04-009_P5060011
X-04-009	Looking upstream looking at perched culvert	305	X-04-009_P5060012
X-04-010	Looking upstream from crossing	305	X-04-010_P5060013
X-04-010	Looking downstream from crossing	135	X-04-010_P5060014
X-04-010	Looking downstream at very small flowing channel	305	X-04-010_P5060015
X-04-010	Looking upstream at corrugated metal pipe	305	X-04-010_P5060016
X-04-011	Looking downstream from crossing	90	X-04-011_P5060017

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-011	Looking upstream from crossing	270	X-04-011_P5060018
X-04-012	Looking upstream from crossing	270	X-04-012_P5060019
X-04-012	Looking downstream from crossing	90	X-04-012_P5060020
X-04-012	Looking upstream looking under bridge	270	X-04-012_P5060021
X-04-013	Looking upstream from crossing	270	X-04-013_P5060022
X-04-013	Looking downstream from crossing	125	X-04-013_P5060023
X-04-014	Looking upstream from crossing	240	X-04-014_P5060024
X-04-014	Looking downstream from crossing	120	X-04-014_P5060025
X-04-015	Looking upstream from crossing	270	X-04-015_P5060026
X-04-015	Looking downstream from crossing	90	X-04-015_P5060027
X-04-015	Looking upstream at culverts	305	X-04-015_P5060028
X-04-016	Looking upstream from below dam	300	X-04-016_P5060029
X-04-016	Looking downstream from above dam	60	X-04-016_P5060030
X-04-017	Looking downstream from dam	45	X-04-017_P5060031
X-04-017	Looking upstream from dam	225	X-04-017_P5060032
X-04-017	Looking at low level crossing	270	X-04-017_P5060033
X-04-017	Looking at corrugated metal pipe at crossing	45	X-04-017_P5060034
X-04-018	Looking upstream from crossing	185	X-04-018_P5060035
X-04-018	Looking downstream from crossing	40	X-04-018_P5060036
X-04-019	Looking upstream from crossing	225	X-04-019_P5060037
X-04-019	Looking downstream from crossing	5	X-04-019_P5060038
X-04-020	Looking downstream from crossing	45	X-04-020_P5060039
X-04-020	Looking upstream from crossing	260	X-04-020_P5060040
X-04-021	Looking upstream from control structure	270	X-04-021_P5060041
X-04-021	Looking downstream from control structure	90	X-04-021_P5060042
X-04-022	Looking upstream from crossing	270	X-04-022_P5060043
X-04-022	Looking downstream from crossing	90	X-04-022_P5060044
X-04-022	Looking upstream at culverts	305	X-04-022_P5060045
X-04-023	Looking upstream from crossing	360	X-04-023_P5100001
X-04-023	Looking downstream from crossing	180	X-04-023_P5100002
X-04-024	Looking upstream from culvert crossing	300	X-04-024_P5100003
X-04-024	Looking downstream from culvert crossing	105	X-04-024_P5100004
X-04-024	Looking upstream at corrugated metal pipe	280	X-04-024_P5100005

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-025	Looking upstream from culvert crossing	270	X-04-025_P5100006
X-04-025	Looking downstream at culverts	90	X-04-025_P5100007
X-04-025	Looking downstream from culvert crossing	90	X-04-025_P5100008
X-04-026	Looking upstream from bridge crossing	270	X-04-026_P5100009
X-04-026	Looking downstream from bridge crossing	90	X-04-026_P5100010
X-04-027	Looking upstream from culvert crossing	305	X-04-027_P5100011
X-04-027	Looking downstream from culvert crossing	180	X-04-027_P5100012
X-04-028	Looking upstream from culvert crossing	295	X-04-028_P5100013
X-04-028	Looking downstream from culvert crossing	125	X-04-028_P5100014
X-04-029	Looking upstream from culvert crossing	270	X-04-029_P5100015
X-04-029	Looking downstream from culvert crossing	90	X-04-029_P5100016
X-04-030	Looking upstream from low level crossing	270	X-04-030_P5100017
X-04-030	Looking downstream from low level crossing	90	X-04-030_P5100018
X-04-031	Looking upstream from culvert crossing	270	X-04-031_P5100019
X-04-031	Looking downstream from culvert crossing	90	X-04-031_P5100020
X-04-031	Looking upstream at culverts	310	X-04-031_P5100021
X-04-032	Looking upstream from low level crossing	270	X-04-032_P5100022
X-04-032	Looking downstream from low level crossing	90	X-04-032_P5100023
X-04-032	Looking at flooded low level crossing	180	X-04-032_P5100024
X-04-033	Looking upstream from bridge crossing	305	X-04-033_P5100025
X-04-033	Looking downstream from bridge crossing	135	X-04-033_P5100026
X-04-033	Looking upstream at 11-A North Lateral Drain	270	X-04-033_P5100027
X-04-034	Looking upstream from culvert crossing	180	X-04-034_P5100028
X-04-034	Looking downstream from culvert crossing	360	X-04-034_P5100029
X-04-034	Looking upstream at perched culverts	180	X-04-034_P5100030
X-04-035	Looking upstream from culvert crossing	180	X-04-035_P5100031
X-04-035	Looking downstream from culvert crossing	45	X-04-035_P5100032
X-04-035	Looking downstream at blocked culverts	45	X-04-035_P5100033
X-04-036	Looking downstream from culvert crossing	105	X-04-036_P5140002
X-04-036	Looking upstream at cement culvert	270	X-04-036_P5140003
X-04-036	Looking upstream from culvert crossing	305	X-04-036_P5140004
X-04-036	Looking downstream at culvert	45	X-04-036_P5140005
X-04-037	Looking upstream from bridge crossing	305	X-04-037_P5140006

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-037	Looking downstream under bridge	150	X-04-037_P5140007
X-04-037	Looking downstream from bridge crossing	140	X-04-037_P5140008
X-04-037	Looking upstream under bridge	320	X-04-037_P5140009
X-04-038	Looking upstream from culvert crossing	305	X-04-038_P5140010
X-04-038	Looking downstream from culvert crossing	90	X-04-038_P5140011
X-04-038	Looking upstream at culverts	360	X-04-038_P5140012
X-04-038	Looking downstream at culverts	180	X-04-038_P5140013
X-04-039	Looking upstream from culvert crossing	305	X-04-039_P5140014
X-04-039	Looking downstream at perched corrugated metal pipe	115	X-04-039_P5140015
X-04-039	Looking downstream from culvert crossing	70	X-04-039_P5140016
X-04-039	Looking upstream at culverts	300	X-04-039_P5140017
X-04-040	Looking upstream from culvert crossing	220	X-04-040_P5140018
X-04-040	Looking downstream from culvert crossing	30	X-04-040_P5140019
X-04-040	Looking upstream at culverts	140	X-04-040_P5140020
X-04-041	Looking upstream from bridge crossing	315	X-04-041_P5140021
X-04-041	Looking downstream under bridge	90	X-04-041_P5140022
X-04-041	Looking downstream from bridge crossing	135	X-04-041_P5140023
X-04-041	Looking upstream under bridge	360	X-04-041_P5140024
X-04-042	Looking upstream from culvert crossing	270	X-04-042_P5140025
X-04-042	Looking downstream from culvert crossing	90	X-04-042_P5140026
X-04-042	Looking upstream at culverts	315	X-04-042_P5140027
X-04-042	Looking downstream at culverts	60	X-04-042_P5140028
X-04-043	Looking upstream from riffle	320	X-04-043_P5170001
X-04-043	Looking downstream from riffle	130	X-04-043_P5170002
X-04-044	Looking upstream from bridge crossing	360	X-04-044_P5170003
X-04-044	Looking downstream under bridge	210	X-04-044_P5170004
X-04-044	Looking downstream from bridge crossing	180	X-04-044_P5170005
X-04-044	Looking upstream under bridge	305	X-04-044_P5170006
X-04-045	Looking at cattle	305	X-04-045_P5170007
X-04-045	Looking upstream from culvert crossing	270	X-04-045_P5170008
X-04-045	Looking downstream from culvert crossing	180	X-04-045_P5170009
X-04-045	Looking upstream at corrugated metal pipe	45	X-04-045_P5170010
X-04-045	Looking downstream at corrugated metal pipe	120	X-04-045_P5170011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-046	Looking upstream from culvert crossing	360	X-04-046_P5170012
X-04-046	Looking downstream at culverts and Kitner Drain from road	235	X-04-046_P5170013
X-04-046	Looking downstream from culvert crossing	180	X-04-046_P5170014
X-04-046	Looking upstream at culverts	45	X-04-046_P5170015
X-04-047	Looking upstream from bridge crossing	270	X-04-047_P5170016
X-04-047	Looking downstream from bridge crossing	90	X-04-047_P5170017
X-04-047	Looking upstream at bridge	305	X-04-047_P5170018
X-04-047	Looking downstream at cattle impacts	90	X-04-047_P5170019
X-04-047	Looking upstream at dugout pool	210	X-04-047_P5170020
X-04-048	Looking upstream from culvert crossing	360	X-04-048_P5180001
X-04-048	Looking downstream from culvert crossing	180	X-04-048_P5180002
X-04-048	Looking downstream at culvert inlet	120	X-04-048_P5180003
X-04-048	Looking at culvert outlet from left bank	90	X-04-048_P5180004
X-04-049	Looking upstream from culvert crossing	180	X-04-049_P5180005
X-04-049	Looking downstream from culvert crossing	360	X-04-049_P5180006
X-04-049	Looking at culvert inlet from right bank	75	X-04-049_P5180007
X-04-049	Looking at culvert outlet from left bank	250	X-04-049_P5180008
X-04-050	Looking upstream from bridge crossing	260	X-04-050_P5180009
X-04-050	Looking downstream from bridge crossing	120	X-04-050_P5180010
X-04-051	Looking upstream from low bridge crossing	230	X-04-051_P5180011
X-04-051	Looking downstream from low bridge crossing	60	X-04-051_P5180012
X-04-051	Looking upstream at low bridge	300	X-04-051_P5180013
X-04-051	Looking downstream at low bridge	120	X-04-051_P5180014
X-04-051	Looking upstream at backed up water caused by beaver dam	210	X-04-051_P5180015
X-04-052	Looking upstream from bridge crossing	180	X-04-052_P5190001
X-04-052	Looking downstream from bridge crossing	360	X-04-052_P5190002
X-04-053	Looking upstream from culvert crossing	180	X-04-053_P5200003
X-04-053	Looking downstream from culvert crossing	360	X-04-053_P5200004
X-04-053	Looking at culvert inlet	315	X-04-053_P5200005
X-04-053	Looking at culvert outlet	225	X-04-053_P5200006
X-04-053	Photo of spawning male White Sucker 455mm (released)	N/A	X-04-053_P5200007
X-04-054	Looking upstream from culvert crossing	180	X-04-054_P5200008
X-04-054	Looking downstream from culvert crossing	360	X-04-054_P5200009

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-054	Looking at culvert inlet	305	X-04-054_P5200010
X-04-054	Looking at culvert outlet	225	X-04-054_P5200011
X-04-055	Looking upstream from culvert crossing	180	X-04-055_P5200012
X-04-055	Looking downstream from culvert crossing	3602	X-04-055_P5200013
X-04-055	Looking at culvert inlet	305	X-04-055_P5200014
X-04-055	Looking at culvert outlet	225	X-04-055_P5200015
X-04-056	Looking upstream from railway bridge crossing	195	X-04-056_P5200016
X-04-056	Looking downstream from railway bridge crossing	45	X-04-056_P5200017
X-04-056	Looking upstream on Binden Drain from right bank	295	X-04-056_P5200018
X-04-057	Looking upstream from culvert crossing	180	X-04-057_P5200019
X-04-057	Looking downstream from culvert crossing	360	X-04-057_P5200020
X-04-057	Looking at culvert inlet	315	X-04-057_P5200021
X-04-057	Looking at culvert outlet	135	X-04-057_P5200022
X-04-058	Looking upstream from culvert crossing	180	X-04-058_P5200023
X-04-058	Looking downstream from culvert crossing	360	X-04-058_P5200024
X-04-058	Looking at culvert inlet	315	X-04-058_P5200025
X-04-058	Looking at culvert outlet	225	X-04-058_P5200026
X-04-059	Looking upstream from culvert crossing	225	X-04-059_P5200027
X-04-059	Looking downstream from culvert crossing	45	X-04-059_P5200028
X-04-059	Looking at culvert inlet	110	X-04-059_P5200029
X-04-059	Looking at culvert outlet	225	X-04-059_P5200030
X-04-060	Looking upstream from bridge crossing	270	X-04-060_P5200031
X-04-060	Looking downstream from bridge crossing	90	X-04-060_P5200032
X-04-061	Looking upstream from bridge crossing	195	X-04-061_P5200033
X-04-061	Looking downstream from bridge crossing	360	X-04-061_P5200034
X-04-062	Looking upstream from bridge crossing	180	X-04-062_P5200035
X-04-062	Looking downstream from bridge crossing	360	X-04-062_P5200036
X-04-063	Looking upstream from left bank of Westbourne Drain	180	X-04-063_P5200037
X-04-063	Looking downstream from left bank of Westbourne Drain	350	X-04-063_P5200038
X-04-063	Looking upstream from culvert crossing on 2nd order drain	90	X-04-063_P5200039
X-04-063	Looking downstream from culvert crossing on 2nd order drain	270	X-04-063_P5200040
X-04-063	Looking at culvert inlet	225	X-04-063_P5200041
X-04-063	Looking at culvert outlet	135	X-04-063_P5200042

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-064	Looking upstream at low level crossing	180	X-04-064_P5200043
X-04-064	Looking downstream at low level crossing	350	X-04-064_P5200044
X-04-065	Looking upstream from bridge crossing	320	X-04-065_P5210001
X-04-065	Looking downstream from bridge crossing	90	X-04-065_P5210002
X-04-065	Looking at Northern Pike 803mm (released)	225	X-04-065_P5210003
X-04-065	Looking at Walleye 297mm (released)	N/A	X-04-065_P5210004
X-04-066	Looking upstream from bridge crossing	230	X-04-066_P5210005
X-04-066	Looking downstream from bridge crossing	30	X-04-066_P5210006
X-04-067	Looking upstream from bridge crossing	360	X-04-067_P5250007
X-04-067	Looking downstream from bridge crossing	180	X-04-067_P5250008
X-04-067	Looking upstream at dam	360	X-04-067_P5250009
X-04-068	Looking upstream from right bank	60	X-04-068_P5250010
X-04-068	Looking downstream from right bank	305	X-04-068_P5250011
X-04-068	Looking at spawning male White Sucker- 387mm (released)	N/A	X-04-068_P5250012
X-04-068	Looking at spawning male White Sucker 395mm (released)	N/A	X-04-068_P5250013
X-04-068	Looking at spawning male White Sucker 400mm (released)	N/A	X-04-068_P5250014
X-04-069	Looking upstream from riffle	180	X-04-069_P5250015
X-04-069	Looking downstream from riffle	360	X-04-069_P5250016
X-04-070	Looking upstream from bridge crossing	180	X-04-070_P5250017
X-04-070	Looking downstream from bridge crossing	360	X-04-070_P5250018
X-04-070	Looking upstream on 2nd order tributary from bridge crossing	270	X-04-070_P5250019
X-04-071	Looking upstream from right bank	270	X-04-071_P5250020
X-04-071	Looking downstream from right bank	90	X-04-071_P5250021
X-04-072	Looking upstream from right bank	210	X-04-072_P5250022
X-04-072	Looking downstream from right bank	110	X-04-072_P5250023
X-04-073	Looking upstream from bridge crossing	290	X-04-073_P5250024
X-04-073	Looking downstream from bridge crossing	125	X-04-073_P5250025
X-04-074	Looking upstream from bridge crossing	270	X-04-074_P5260001
X-04-074	Looking downstream from bridge crossing	90	X-04-074_P5260002
X-04-075	Looking upstream from bridge crossing	45	X-04-075_P5260003
X-04-075	Looking downstream from bridge crossing	180	X-04-075_P5260004
X-04-076	Looking upstream from bridge crossing	340	X-04-076_P5260005
X-04-076	Looking downstream from bridge crossing	135	X-04-076_P5260006

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-077	Looking upstream from riffle	180	X-04-077_P5260007
X-04-077	Looking downstream from riffle	30	X-04-077_P5260008
X-04-078	Looking upstream from low level crossing	270	X-04-078_P5260009
X-04-078	Looking downstream from low level crossing	90	X-04-078_P5260010
X-04-078	Looking at culvert inlet	45	X-04-078_P5260011
X-04-078	Looking at culvert outlet	305	X-04-078_P5260012
X-04-079	Looking upstream from culvert crossing	270	X-04-079_P5260013
X-04-079	Looking downstream from culvert crossing	45	X-04-079_P5260014
X-04-080	Looking upstream from dam	270	X-04-080_P5260015
X-04-080	Looking downstream from dam	90	X-04-080_P5260016
X-04-080	Looking upstream at dam	305	X-04-080_P5260017
X-04-081	Looking upstream from left bank	305	X-04-081_P5270001
X-04-081	Looking downstream from left bank	120	X-04-081_P5270002
X-04-082	Looking upstream from left bank	180	X-04-082_P5270003
X-04-082	Looking downstream from left bank	45	X-04-082_P5270004
X-04-082	Looking upstream on Carr's Creek from right bank	80	X-04-082_P5270005
X-04-082	Looking downstream on Carr's Creek from right bank	290	X-04-082_P5270006
X-04-083	Looking upstream from bridge crossing	135	X-04-083_P5270007
X-04-083	Looking downstream from bridge crossing	225	X-04-083_P5270008
X-04-084	Looking upstream from culvert crossing	90	X-04-084_P5270009
X-04-084	Looking downstream from culvert crossing	260	X-04-084_P5270010
X-04-084	Looking at culvert inlet	315	X-04-084_P5270011
X-04-084	Looking at culvert outlet	90	X-04-084_P5270012
X-04-085	Looking upstream from bridge crossing	60	X-04-085_P5270013
X-04-085	Looking downstream from bridge crossing	240	X-04-085_P5270014
X-04-086	Looking upstream on 2nd order tributary from left bank	295	X-04-086_P5270015
X-04-086	Looking upstream on Giroux Drain from right bank	140	X-04-086_P5270016
X-04-086	Looking downstream from culvert crossing	300	X-04-086_P5270017
X-04-086	Looking at culvert outlet	220	X-04-086_P5270018
X-04-086	Looking at culvert inlet	40	X-04-086_P5270019
X-04-087	Looking upstream from bridge crossing	305	X-04-087_P5270020
X-04-087	Looking downstream from bridge crossing	135	X-04-087_P5270021
X-04-088	Looking upstream from culvert crossing	180	X-04-088_P5270022

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-088	Looking downstream from culvert crossing	360	X-04-088_P5270023
X-04-088	Looking at culvert inlet	325	X-04-088_P5270024
X-04-088	Looking at culvert outlet	225	X-04-088_P5270025
X-04-089	Looking upstream from culvert crossing	90	X-04-089_P5270026
X-04-089	Looking downstream from culvert crossing	360	X-04-089_P5270027
X-04-089	Looking at perched outlet	180	X-04-089_P5270028
X-04-089	Looking at culvert inlet	360	X-04-089_P5270029
X-04-090	Looking upstream on tributary to Simard Creek	210	X-04-090_P5270030
X-04-090	Looking downstream on tributary to Simard Creek	360	X-04-090_P5270031
X-04-090	Upstream on Simard Creek	180	X-04-090_P5270032
X-04-090	Looking downstream on Simard Creek	90	X-04-090_P5270033
X-04-091	Looking upstream from culvert crossing	110	X-04-091_P5280001
X-04-091	Looking downstream from culvert crossing	340	X-04-091_P5280002
X-04-091	Looking at culvert inlet	280	X-04-091_P5280003
X-04-091	Looking at culvert outlet	100	X-04-091_P5280004
X-04-091	Looking at Northern Pike, 382mm (released)	N/A	X-04-091_P5280005
X-04-092	Looking downstream from right bank	360	X-04-092_P5280006
X-04-092	Looking upstream from right bank	180	X-04-092_P5280007
X-04-092	Looking at 255mm spawning male White Sucker (released)	N/A	X-04-092_P5280008
X-04-093	Looking upstream from culvert crossing	135	X-04-093_P5280009
X-04-093	Looking downstream from culvert crossing	45	X-04-093_P5280010
X-04-093	Looking at culvert inlet	45	X-04-093_P5280011
X-04-093	Looking at culvert outlet	135	X-04-093_P5280012
X-04-094	Looking upstream from left bank	180	X-04-094_P5280013
X-04-094	Looking downstream from riffle	360	X-04-094_P5280014
X-04-095	Looking upstream from left bank	305	X-04-095_P6010001
X-04-095	Looking downstream from left bank	60	X-04-095_P6010002
X-04-096	Looking downstream from bridge crossing	270	X-04-096_P6010003
X-04-096	Looking upstream from bridge crossing	60	X-04-096_P6010004
X-04-097	Looking upstream from culvert crossing	270	X-04-097_P6010005
X-04-097	Looking downstream from culvert crossing	90	X-04-097_P6010006
X-04-097	Looking at culvert inlet	120	X-04-097_P6010007
X-04-097	Looking at culvert outlet	210	X-04-097_P6010008

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-097	Looking upstream at fished pool	180	X-04-097_P6010009
X-04-097	Looking downstream at fished pool	360	X-04-097_P6010010
X-04-098	Looking downstream from bridge crossing	270	X-04-098_P6010011
X-04-098	Looking upstream from bridge crossing	110	X-04-098_P6010012
X-04-099	Looking downstream from bridge crossing	270	X-04-099_P6010013
X-04-099	Looking upstream from bridge crossing	90	X-04-099_P6010014
X-04-100	Looking upstream from culvert crossing	270	X-04-100_P6010015
X-04-100	Looking downstream from culvert crossing	90	X-04-100_P6010016
X-04-100	Looking at culvert inlet	110	X-04-100_P6010017
X-04-100	Looking at culvert outlet	225	X-04-100_P6010018
X-04-100	Looking upstream at blockage of fish passage	225	X-04-100_P6010019
X-04-101	Looking downstream on Domain Drain at Red River Floodway gates	240	X-04-101_P6010020
X-04-101	Looking upstream from culvert crossing	270	X-04-101_P6010021
X-04-101	Looking downstream from culvert crossing	90	X-04-101_P6010022
X-04-101	Looking at culvert inlet	120	X-04-101_P6010023
X-04-101	Looking at culvert outlet	45	X-04-101_P6010024
X-04-102	Looking upstream from left bank	160	X-04-102_P6020001
X-04-102	Looking downstream from left bank	305	X-04-102_P6020002
X-04-103	Looking upstream from left bank	110	X-04-103_P6020003
X-04-103	Looking downstream from left bank	240	X-04-103_P6020004
X-04-103	Looking at 643mm Common Carp (released)	N/A	X-04-103_P6020007
X-04-104	Looking upstream from culvert crossing	180	X-04-104_P6020008
X-04-104	Looking downstream from culvert crossing	325	X-04-104_P6020009
X-04-104	Looking at culvert inlet	305	X-04-104_P6020010
X-04-104	Looking at culvert outlet	225	X-04-104_P6020011
X-04-105	Looking upstream from culvert crossing	170	X-04-105_P6020012
X-04-105	Looking downstream from culvert crossing	290	X-04-105_P6020013
X-04-105	Looking at culvert inlet	315	X-04-105_P6020014
X-04-105	Looking at culvert outlet	90	X-04-105_P6020015
X-04-106	Looking downstream from bridge crossing	325	X-04-106_P6030001
X-04-106	Looking upstream from bridge crossing	180	X-04-106_P6030002
X-04-106	Looking at 545mm Common Carp (released)	N/A	X-04-106_P6030003
X-04-107	Looking upstream from flooded road	270	X-04-107_P6030004

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-107	Looking downstream from flooded road	90	X-04-107_P6030005
X-04-107	Looking at flooded low level crossing	180	X-04-107_P6030006
X-04-108	Looking upstream from elevated bridge crossing	180	X-04-108_P6030007
X-04-108	Looking downstream from elevated bridge crossing	360	X-04-108_P6030008
X-04-109	Looking at culvert inlet	150	X-04-109_P6030009
X-04-109	Looking upstream from elevated culvert crossing	305	X-04-109_P6030010
X-04-109	Looking downstream from elevated culvert crossing	110	X-04-109_P6030011
X-04-110	Looking at culvert outlet	240	X-04-110_P6040001
X-04-110	Looking at cattle tracks on left bank	N/A	X-04-110_P6040002
X-04-110	Looking upstream from culvert crossing	180	X-04-110_P6040003
X-04-110	Looking downstream from culvert crossing	360	X-04-110_P6040004
X-04-110	Looking at culvert inlet	290	X-04-110_P6040005
X-04-110	Looking at spawning male Fathead Minnow	N/A	X-04-110_P6040006
X-04-111	Looking upstream from culvert crossing	290	X-04-111_P6040009
X-04-111	Looking downstream from culvert crossing	110	X-04-111_P6040010
X-04-111	Looking at culvert outlet	340	X-04-111_P6040011
X-04-111	Looking at culvert inlet	160	X-04-111_P6040012
X-04-112	Looking upstream from culvert crossing	180	X-04-112_P6040013
X-04-112	Looking downstream from culvert crossing	305	X-04-112_P6040014
X-04-112	Looking at culvert inlet	250	X-04-112_P6040015
X-04-112	Looking at culvert outlet	250	X-04-112_P6040016
X-04-113	Looking downstream from bridge crossing	90	X-04-113_P6070001
X-04-113	Looking upstream from bridge crossing	270	X-04-113_P6070002
X-04-114	Looking at Iowa Darter	N/A	X-04-114_P6070005
X-04-114	Looking at Iowa Darter	N/A	X-04-114_P6070006
X-04-114	Looking at Iowa Darter	N/A	X-04-114_P6070007
X-04-114	Looking upstream from left bank of flooded low level crossing	210	X-04-114_P6070010
X-04-114	Looking downstream from left bank of flooded low level crossing	340	X-04-114_P6070011
X-04-114	Looking down at exact habitat where Iowa Darters were caught	225	X-04-114_P6070012
X-04-114	Looking at flooded low level crossing	270	X-04-114_P6070013
X-04-115	Looking upstream from right bank	260	X-04-115_P6070014
X-04-115	Looking downstream from riffle	85	X-04-115_P6070015
X-04-115	Looking at culvert inlet	270	X-04-115_P6070016

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-115	Looking at Creek Chub	N/A	X-04-115_P6070017
X-04-115	Looking at Common Shiner	N/A	X-04-115_P6070018
X-04-115	Looking at Western Blacknose Dace	N/A	X-04-115_P6070019
X-04-115	Looking at Western Blacknose Dace	N/A	X-04-115_P6070020
X-04-116	Looking upstream from culvert crossing	180	X-04-116_P6080001
X-04-116	Looking downstream from culvert crossing	360	X-04-116_P6080002
X-04-116	Looking at culvert inlet	45	X-04-116_P6080003
X-04-116	Looking at culvert outlet	120	X-04-116_P6080004
X-04-117	Looking upstream from culvert crossing	180	X-04-117_P6080005
X-04-117	Looking downstream from culvert crossing	360	X-04-117_P6080006
X-04-117	Looking at culvert inlet	305	X-04-117_P6080007
X-04-117	Looking at culvert outlet	210	X-04-117_P6080008
X-04-118	Looking upstream from right bank	150	X-04-118_P6080009
X-04-118	Looking downstream from right bank	360	X-04-118_P6080010
X-04-119	Looking upstream from culvert crossing	180	X-04-119_P6080011
X-04-119	Looking downstream from culvert crossing	360	X-04-119_P6080012
X-04-119	Looking at culvert inlet	250	X-04-119_P6080013
X-04-119	Looking at culvert outlet	210	X-04-119_P6080014
X-04-120	Looking upstream from right bank	270	X-04-120_P6080019
X-04-120	Looking downstream from riffle	120	X-04-120_P6080020
X-04-121	Looking downstream from bridge crossing	225	X-04-121_P6080021
X-04-121	Looking upstream from bridge crossing	90	X-04-121_P6080022
X-04-121	Looking at cattle	270	X-04-121_P6080023
X-04-121	Looking at 670mm Common Carp (released)	N/A	X-04-121_P6080024
X-04-122	Looking upstream from culvert crossing	270	X-04-122_P6090001
X-04-122	Looking downstream from culvert crossing	290	X-04-122_P6090002
X-04-122	Looking at culvert inlet	45	X-04-122_P6090003
X-04-122	Looking at culvert outlet	315	X-04-122_P6090004
X-04-123	Looking downstream from bridge crossing	180	X-04-123_P6090009
X-04-123	Looking upstream from bridge crossing	360	X-04-123_P6090010
X-04-124	Looking upstream from left bank	195	X-04-124_P6090011
X-04-124	Looking downstream from left bank	340	X-04-124_P6090012
X-04-124	Looking at flooded low level crossing	270	X-04-124_P6090013

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-125	Looking upstream from flood control structure	200	X-04-125_P6100001
X-04-125	Looking downstream from flood control structure	340	X-04-125_P6100002
X-04-125	Looking upstream at flood control structure	135	X-04-125_P6100003
X-04-126	Looking downstream from bridge crossing	360	X-04-126_P6100004
X-04-126	Looking upstream from bridge crossing	180	X-04-126_P6100005
X-04-127	Looking at dead Common Carp on rocks	N/A	X-04-127_P6100006
X-04-127	Looking at perched outlet	240	X-04-127_P6100007
X-04-127	Looking upstream from culvert crossing	75	X-04-127_P6100008
X-04-127	Looking downstream from culvert crossing	280	X-04-127_P6100009
X-04-127	Looking at culvert inlet	45	X-04-127_P6100010
X-04-127	Looking at 234mm Rock Bass (released)	N/A	X-04-127_P6100011
X-04-127	Looking at 221mm Rock Bass (released)	N/A	X-04-127_P6100012
X-04-127	Looking at 262mm Rock Bass (released)	N/A	X-04-127_P6100013
X-04-127	Looking at 347mm Northern Pike (released)	N/A	X-04-127_P6100015
X-04-127	Looking at 539mm Common Carp (released)	N/A	X-04-127_P6100016
X-04-128	Looking upstream from bridge crossing	270	X-04-128_P6140001
X-04-128	Looking downstream from bridge crossing	90	X-04-128_P6140002
X-04-128	Looking at 272mm White Sucker (released)	N/A	X-04-128_P6140003
X-04-128	Looking at central mud minnow	N/A	X-04-128_P6140004
X-04-128	Looking at central mud minnow	N/A	X-04-128_P6140005
X-04-129	Looking at culvert outlet	220	X-04-129_P6140006
X-04-129	Looking downstream from left bank	45	X-04-129_P6140007
X-04-129	Looking upstream from culvert crossing	225	X-04-129_P6140008
X-04-129	Looking at culvert inlet	60	X-04-129_P6140009
X-04-129	Looking at 212mm, 249mm White Suckers (released)	N/A	X-04-129_P6140010
X-04-130	Looking downstream from right bank	285	X-04-130_P6140011
X-04-130	Looking at left corrugated metal pipe from right bank	110	X-04-130_P6140012
X-04-130	Looking at right corrugated metal pipe from right bank	85	X-04-130_P6140013
X-04-130	Looking upstream from left bank	100	X-04-130_P6140014
X-04-130	Looking at left corrugated metal pipe from left bank	210	X-04-130_P6140015
X-04-130	Looking at right corrugated metal pipe from left bank	270	X-04-130_P6140016
X-04-131	Looking upstream from culvert crossing	270	X-04-131_P6140017
X-04-131	Looking downstream from culvert crossing	90	X-04-131_P6140018

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-131	Looking at culvert inlet	305	X-04-131_P6140019
X-04-131	Looking at culvert outlet	225	X-04-131_P6140020
X-04-132	Looking upstream from culvert crossing	270	X-04-132_P6140021
X-04-132	Looking downstream from culvert crossing	90	X-04-132_P6140022
X-04-132	Looking at culvert inlet	45	X-04-132_P6140023
X-04-132	Looking at culvert outlet	305	X-04-132_P6140024
X-04-133	Looking upstream from culvert crossing	120	X-04-133_P6150025
X-04-133	Looking downstream from culvert crossing	310	X-04-133_P6150026
X-04-133	Looking at culvert inlet	20	X-04-133_P6150027
X-04-133	Looking at culvert outlet	120	X-04-133_P6150028
X-04-134	Looking upstream from culvert crossing	90	X-04-134_P6150029
X-04-134	Looking downstream from culvert crossing	270	X-04-134_P6150030
X-04-134	Looking at culvert inlet	225	X-04-134_P6150031
X-04-134	Looking at culvert outlet	135	X-04-134_P6150032
X-04-135	Looking upstream from bridge crossing	135	X-04-135_P6150033
X-04-135	Looking downstream towards Whitemud River from bridge crossing	330	X-04-135_P6150034
X-04-136	Looking upstream from culvert crossing	225	X-04-136_P6150035
X-04-136	Looking downstream from culvert crossing	45	X-04-136_P6150036
X-04-136	Looking at culvert inlet	120	X-04-136_P6150037
X-04-136	Looking at culvert outlet	120	X-04-136_P6150038
X-04-137	Looking upstream at reservoir	135	X-04-137_P6160001
X-04-137	Looking downstream from top of dam	350	X-04-137_P6160002
X-04-137	Looking at dam inlet	160	X-04-137_P6160003
X-04-137	Looking at dam outlet	160	X-04-137_P6160004
X-04-137	Looking at Yellow Perch	N/A	X-04-137_P6160005
X-04-137	Looking at Yellow Perch	N/A	X-04-137_P6160006
X-04-137	looking at Walleye sign	90	X-04-137_P6160007
X-04-138	Looking upstream from culvert crossing	90	X-04-138_P6160008
X-04-138	Looking downstream from culvert crossing	270	X-04-138_P6160009
X-04-138	Looking at perched culvert outlet (0.5m)	135	X-04-138_P6160010
X-04-138	Looking at Black Bullhead	N/A	X-04-138_P6160011
X-04-138	Looking at brassy minnow	N/A	X-04-138_P616000[illegible]3
X-04-139	Looking upstream from culvert crossing	340	X-04-139_P6160014

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-139	Looking downstream from culvert crossing	110	X-04-139_P6160015
X-04-139	Looking at culvert inlet	150	X-04-139_P6160016
X-04-139	Looking at culvert outlet	80	X-04-139_P6160017
X-04-140	Looking upstream from culvert crossing	135	X-04-140_P6160018
X-04-140	Looking downstream from culvert crossing	325	X-04-140_P6160019
X-04-140	Looking at culvert inlet	45	X-04-140_P6160020
X-04-140	Looking at perched culvert outlet	225	X-04-140_P6160021
X-04-141	Looking upstream from culvert crossing	210	X-04-141_P6170001
X-04-141	Looking downstream from culvert crossing	45	X-04-141_P6170002
X-04-141	Looking at culvert inlet	90	X-04-141_P6170003
X-04-141	Looking at culvert outlet	305	X-04-141_P6170004
X-04-141	Looking at group of White Suckers	N/A	X-04-141_P6170005
X-04-142	Looking upstream from left bank	120	X-04-142_P6170006
X-04-142	Looking downstream from left bank	210	X-04-142_P6170007
X-04-143	Looking upstream on west branch from culvert crossing	350	X-04-143_P6170008
X-04-143	Looking upstream on east branch from culvert crossing	10	X-04-143_P6170009
X-04-143	Looking downstream from culvert crossing	180	X-04-143_P6170010
X-04-144	Looking upstream from culvert crossing	270	X-04-144_P6170011
X-04-144	Looking downstream from culvert crossing	90	X-04-144_P6170012
X-04-144	Looking at flooded outlet	90	X-04-144_P6170013
X-04-145	Looking upstream from culvert crossing	220	X-04-145_P6170014
X-04-145	Looking at perched culvert inlet (1.5m)	320	X-04-145_P6170015
X-04-145	Looking at perched culvert outlet (2m)	285	X-04-145_P6170016
X-04-145	Looking at culvert outlet	210	X-04-145_P6170017
X-04-145	Looking downstream from culvert crossing	90	X-04-145_P6170018
X-04-146	Looking upstream from culvert crossing	20	X-04-146_P6170020
X-04-146	Looking downstream from culvert crossing	200	X-04-146_P6170021
X-04-146	Looking at culvert inlets	160	X-04-146_P6170022
X-04-146	Looking at perched outlets (0.2m)	270	X-04-146_P6170023
X-04-147	Looking at perched culvert outlets (0.5m)	305	X-04-147_P6180001
X-04-147	Looking downstream from right bank	205	X-04-147_P6180002
X-04-147	Looking upstream from culvert crossing	345	X-04-147_P6180003
X-04-148	Looking upstream from bridge crossing	270	X-04-148_P6180004

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-148	Looking downstream from bridge crossing	90	X-04-148_P6180005
X-04-149	Looking upstream from bridge crossing	270	X-04-149_P6210001
X-04-149	Looking downstream from bridge crossing	90	X-04-149_P6210002
X-04-150	Looking upstream from bridge crossing	270	X-04-150_P6210003
X-04-150	Looking downstream from bridge crossing	90	X-04-150_P6210004
X-04-150	Looking at Finescale Dace	N/A	X-04-150_P6210005
X-04-150	Looking at Finescale Dace	N/A	X-04-150_P6210006
X-04-151	Looking upstream from right bank	160	X-04-151_P6210007
X-04-151	Looking downstream from right bank	30	X-04-151_P6210008
X-04-151	Looking at culvert outlet	160	X-04-151_P6210009
X-04-152	Looking upstream from culvert crossing	180	X-04-152_P6220001
X-04-152	Looking downstream from culvert crossing	360	X-04-152_P6220002
X-04-152	Looking at culvert inlet	65	X-04-152_P6220003
X-04-152	Looking at culvert outlet	120	X-04-152_P6220004
X-04-153	Looking upstream from culvert crossing	360	X-04-153_P6220005
X-04-153	Looking downstream from culvert crossing	150	X-04-153_P6220006
X-04-153	Looking at culvert inlet	290	X-04-153_P6220007
X-04-153	Looking at culvert outlet	325	X-04-153_P6220008
X-04-154	Looking upstream from bridge crossing	285	X-04-154_P6220009
X-04-154	Looking downstream from bridge crossing	90	X-04-154_P6220010
X-04-155	Looking upstream from culvert crossing	210	X-04-155_P6230001
X-04-155	Looking downstream from culvert crossing	45	X-04-155_P6230002
X-04-155	Looking at culvert inlet	45	X-04-155_P6230003
X-04-155	Looking at culvert outlet	305	X-04-155_P6230004
X-04-155	Looking at 10 Yellow Perch, fork length from 85 - 66mm (released)	N/A	X-04-155_P6230005
X-04-155	Looking at Spottail Shiner	N/A	X-04-155_P6230006
X-04-155	Looking at Northern Pike	N/A	X-04-155_P6230007
X-04-156	Looking upstream from culvert crossing	270	X-04-156_P6230008
X-04-156	Looking downstream from culvert crossing	90	X-04-156_P6230009
X-04-156	Looking at culvert inlet	270	X-04-156_P6230010
X-04-156	Looking at culvert outlet	90	X-04-156_P6230011
X-04-157	Looking upstream from bridge crossing	210	X-04-157_P6230012
X-04-157	Looking downstream from bridge crossing	60	X-04-157_P6230013

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-158	Looking upstream from left bank	350	X-04-158_P6230014
X-04-158	Looking downstream from left bank	90	X-04-158_P6230015
X-04-159	Looking upstream from culvert crossing	270	X-04-159_P6230016
X-04-159	Looking downstream from culvert crossing	90	X-04-159_P6230017
X-04-159	Looking at culvert inlet	45	X-04-159_P6230018
X-04-159	Looking at culvert outlet	320	X-04-159_P6230019
X-04-160	Looking upstream from culvert crossing	270	X-04-160_P6240001
X-04-160	Looking downstream from culvert crossing	90	X-04-160_P6240002
X-04-160	Looking at culvert inlet	60	X-04-160_P6240003
X-04-160	Looking at culvert outlet	305	X-04-160_P6240004
X-04-161	Looking upstream from culvert crossing	270	X-04-161_P6240005
X-04-161	Looking downstream from culvert crossing	90	X-04-161_P6240006
X-04-161	Looking at culvert inlet	120	X-04-161_P6240007
X-04-161	Looking at culvert outlet	210	X-04-161_P6240008
X-04-162	Looking upstream from left bank	305	X-04-162_P6240009
X-04-162	Looking downstream from left bank	150	X-04-162_P6240010
X-04-162	Looking at perched outlets(0.4m)	285	X-04-162_P6240011
X-04-162	Looking at Longnose Dace	N/A	X-04-162_P6240012
X-04-163	Looking upstream from left bank	360	X-04-163_P6250001
X-04-163	Looking downstream from left bank	90	X-04-163_P6250002
X-04-164	Looking upstream from culvert crossing	305	X-04-164_P6250003
X-04-164	Looking downstream from culvert crossing	120	X-04-164_P6250004
X-04-164	Looking at culvert inlet	90	X-04-164_P6250005
X-04-164	Looking at culvert outlet	320	X-04-164_P6250006
X-04-165	Looking upstream from culvert crossing	305	X-04-165_P6280001
X-04-165	Looking downstream from culvert crossing	110	X-04-165_P6280002
X-04-165	Looking at culvert inlet	10	X-04-165_P6280003
X-04-165	Looking at culvert outlet	340	X-04-165_P6280004
X-04-166	Looking upstream from culvert crossing	180	X-04-166_P6280005
X-04-166	Looking downstream from culvert crossing	10	X-04-166_P6280006
X-04-166	Looking at culvert inlet	330	X-04-166_P6280007
X-04-166	Looking at culvert outlet	210	X-04-166_P6280008
X-04-167	Looking upstream from culvert crossing	270	X-04-167_P6280009

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-167	Looking downstream from culvert crossing	90	X-04-167_P6280010
X-04-167	Looking at culvert inlet	45	X-04-167_P6280011
X-04-167	Looking at culvert outlet	305	X-04-167_P6280012
X-04-168	Looking upstream from culvert crossing	270	X-04-168_P6280013
X-04-168	Looking downstream from culvert crossing	90	X-04-168_P6280014
X-04-168	Looking at culvert inlet	135	X-04-168_P6280015
X-04-168	Looking at culvert outlet	315	X-04-168_P6280016
X-04-169	Looking upstream from culvert crossing	270	X-04-169_P6280017
X-04-169	Looking downstream from culvert crossing	90	X-04-169_P6280018
X-04-169	Looking at culvert inlet	120	X-04-169_P6280019
X-04-169	Looking at perched outlets 0.3m	225	X-04-169_P6280020
X-04-170	Looking upstream from left bank	360	X-04-170_P6290001
X-04-170	Looking downstream from left bank	60	X-04-170_P6290002
X-04-171	Looking upstream from culvert crossing (Fish Lake)	270	X-04-171_P6290003
X-04-171	Looking downstream from culvert crossing	90	X-04-171_P6290004
X-04-171	Looking down at submerged inlet	N/A	X-04-171_P6290005
X-04-171	Looking at culvert outlet	305	X-04-171_P6290006
X-04-172	Looking upstream from culvert crossing	180	X-04-172_P6290008
X-04-172	Looking downstream from culvert crossing	360	X-04-172_P6290009
X-04-172	Looking at culvert inlet	45	X-04-172_P6290010
X-04-172	Looking at culvert outlet	225	X-04-172_P6290011
X-04-172	Looking at 247mm Northern Pike (released)	N/A	X-04-172_P6290012
X-04-173	Looking upstream from culvert crossing	90	X-04-173_P6290013
X-04-173	Looking downstream from culvert crossing	270	X-04-173_P6290014
X-04-173	Looking at culvert inlet	315	X-04-173_P6290015
X-04-173	Looking at culvert outlet	45	X-04-173_P6290016
X-04-174	Looking upstream from culvert crossing	360	X-04-174_P6290017
X-04-174	Looking downstream from culvert crossing	180	X-04-174_P6290018
X-04-174	Looking at culvert inlet	180	X-04-174_P6290019
X-04-174	Looking at culvert outlet	360	X-04-174_P6290020
X-04-175	Looking upstream from culvert crossing	180	X-04-175_P6290021
X-04-175	Looking downstream from culvert crossing	360	X-04-175_P6290022
X-04-175	Looking at culvert inlet	45	X-04-175_P6290023

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-175	Looking at culvert outlet	120	X-04-175_P6290024
X-04-176	Looking upstream from culvert crossing	270	X-04-176_P6300001
X-04-176	Looking downstream from culvert crossing	90	X-04-176_P6300002
X-04-176	Looking at culvert inlet	45	X-04-176_P6300003
X-04-177	Looking upstream from culvert crossing	195	X-04-177_P6300004
X-04-177	Looking downstream from culvert crossing	30	X-04-177_P6300005
X-04-177	Looking at culvert inlet	45	X-04-177_P6300006
X-04-177	Looking at culvert outlet	195	X-04-177_P6300007
X-04-178	Looking upstream from culvert crossing	190	X-04-178_P7010001
X-04-178	Looking downstream from culvert crossing	15	X-04-178_P7010002
X-04-178	Looking at culvert inlet	340	X-04-178_P7010003
X-04-178	Looking at culvert outlet	225	X-04-178_P7010004
X-04-178	Looking at Common Carp @ 634, 620 and 2 @ 600-650mm (released)	N/A	X-04-178_P7010005
X-04-179	Looking upstream from culvert crossing	200	X-04-179_P7010006
X-04-179	Looking downstream from culvert crossing	360	X-04-179_P7010007
X-04-179	Looking at culvert inlet	305	X-04-179_P7010008
X-04-179	Looking at culvert outlet	235	X-04-179_P7010009
X-04-180	Looking upstream from culvert crossing	180	X-04-180_P7020001
X-04-180	Looking downstream from culvert crossing	360	X-04-180_P7020002
X-04-180	Looking down at culvert inlet	N/A	X-04-180_P7020003
X-04-180	Looking at culvert outlet	270	X-04-180_P7020004
X-04-181	Looking upstream from left bank	270	X-04-181_P7020005
X-04-181	Looking downstream from left bank	90	X-04-181_P7020006
X-04-182	Looking upstream from culvert crossing	330	X-04-182_P7050007
X-04-182	Looking downstream from culvert crossing	120	X-04-182_P7050008
X-04-182	Looking at culvert inlet	90	X-04-182_P7050009
X-04-182	Looking at culvert outlet	360	X-04-182_P7050010
X-04-183	Looking upstream from low level crossing	340	X-04-183_P7050011
X-04-183	Looking downstream from low level crossing	160	X-04-183_P7050012
X-04-183	Looking at cattle-impacted crossing	110	X-04-183_P7050013
X-04-184	Looking upstream from culvert crossing	110	X-04-184_P7050014
X-04-184	Looking downstream from culvert crossing	260	X-04-184_P7050015
X-04-184	Looking at culvert inlet	290	X-04-184_P7050016

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-184	Looking at culvert outlet	110	X-04-184_P7050017
X-04-185	Looking upstream from bridge crossing	180	X-04-185_P7050018
X-04-185	Looking downstream from bridge crossing	190	X-04-185_P7050019
X-04-185	Looking at cattle impact	215	X-04-185_P7050020
X-04-185	Looking at 6 Northern Pike @ 199, 99, 99, 81, 84, and 93mm fork length	N/A	X-04-185_P7050021
X-04-185	Looking at 7 Yellow Perch @ 93, 71, 73, 68, 69, 66 and 68mm	N/A	X-04-185_P7050022
X-04-186	Looking upstream from bridge crossing	360	X-04-186_P7050023
X-04-186	Looking downstream from bridge crossing	180	X-04-186_P7050024
X-04-187	Looking upstream from dam	90	X-04-187_P7060001
X-04-187	Looking downstream from dam	270	X-04-187_P7060002
X-04-187	Looking at water level staff gauge	120	X-04-187_P7060003
X-04-187	Looking at sixteen young of the year Northern Pike (131 - 90mm) (released)	N/A	X-04-187_P7060004
X-04-187	Looking upstream side of dam	305	X-04-187_P7060005
X-04-187	Looking downstream side of dam	120	X-04-187_P7060006
X-04-188	Looking upstream from culvert crossing	90	X-04-188_P7060007
X-04-188	Looking downstream from culvert crossing	210	X-04-188_P7060008
X-04-188	Looking at culvert inlet	305	X-04-188_P7060009
X-04-188	Looking at culvert outlet	30	X-04-188_P7060010
X-04-189	Looking upstream from culvert crossing	315	X-04-189_P7060011
X-04-189	Looking downstream from culvert crossing	135	X-04-189_P7060012
X-04-189	Looking at culvert inlet	180	X-04-189_P7060013
X-04-189	Looking at culvert outlet	360	X-04-189_P7060014
X-04-190	Looking upstream from culvert crossing at cattle instream	110	X-04-190_P7060015
X-04-190	Looking downstream from culvert crossing	305	X-04-190_P7060016
X-04-190	Looking at culvert inlet	340	X-04-190_P7060017
X-04-190	Looking at culvert outlet	45	X-04-190_P7060018
X-04-191	Looking upstream from culvert crossing	90	X-04-191_P7060019
X-04-191	Looking downstream from culvert crossing	270	X-04-191_P7060020
X-04-191	Looking at culvert inlet	315	X-04-191_P7060021
X-04-191	Looking at culvert outlet	45	X-04-191_P7060022
X-04-192	Looking upstream from culvert crossing	90	X-04-192_P7060023
X-04-192	Looking downstream from culvert crossing	270	X-04-192_P7060024
X-04-192	Looking at culvert inlet	305	X-04-192_P7060025

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-192	Looking at culvert outlet	45	X-04-192_P7060026
X-04-192	Looking at 682mm Freshwater Drum (released)	N/A	X-04-192_P7060027
X-04-192	Looking at 682mm Freshwater Drum (released)	N/A	X-04-192_P7060028
X-04-192	Looking at Johnny Darter	N/A	X-04-192_P7060029
X-04-192	Looking at Johnny Darter and Logperch	N/A	X-04-192_P7060030
X-04-192	Looking at Johnny Darter and Logperch	N/A	X-04-192_P7060031
X-04-193	Looking upstream from culvert crossing	305	X-04-193_P7070001
X-04-193	Looking downstream from culvert crossing	125	X-04-193_P7070002
X-04-193	Looking at culvert inlet	90	X-04-193_P7070003
X-04-193	Looking at culvert outlet	270	X-04-193_P7070004
X-04-194	Looking upstream from culvert crossing	165	X-04-194_P7070005
X-04-194	Looking downstream from culvert crossing	360	X-04-194_P7070006
X-04-194	Looking at culvert inlet	360	X-04-194_P7070007
X-04-194	Looking at culvert outlet	170	X-04-194_P7070008
X-04-195	Looking upstream from culvert crossing	180	X-04-195_P7070009
X-04-195	Looking downstream from culvert crossing	360	X-04-195_P7070010
X-04-195	Looking at culvert inlet	45	X-04-195_P7070011
X-04-195	Looking at culvert outlet	120	X-04-195_P7070012
X-04-195	Looking at rotting adult bullhead found upstream	N/A	X-04-195_P7070013
X-04-196	Looking upstream from culvert crossing	270	X-04-196_P7070014
X-04-196	Looking downstream from culvert crossing	90	X-04-196_P7070015
X-04-196	Looking at culvert inlet	320	X-04-196_P7070016
X-04-196	Looking at culvert outlet	210	X-04-196_P7070017
X-04-197	Looking upstream from culvert crossing	20	X-04-197_P7070018
X-04-197	Looking downstream from culvert crossing	180	X-04-197_P7070019
X-04-197	Looking at culvert inlet	225	X-04-197_P7070020
X-04-197	Looking at culvert outlet	315	X-04-197_P7070021
X-04-198	Looking upstream from culvert crossing	270	X-04-198_P7070022
X-04-198	Looking downstream from culvert crossing	90	X-04-198_P7070023
X-04-198	Looking at culvert inlet	305	X-04-198_P7070024
X-04-198	Looking at culvert outlet	225	X-04-198_P7070025
X-04-199	Looking upstream from left bank	195	X-04-199_P7080001
X-04-199	Looking downstream from left bank	60	X-04-199_P7080002

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-199	Looking at five Yellow Perch @ 84, 88, 122, 88, and 81mm FL	N/A	X-04-199_P7080003
X-04-200	Looking upstream from culvert crossing	110	X-04-200_P7080004
X-04-200	Looking downstream from culvert crossing	340	X-04-200_P7080005
X-04-200	Looking at culvert inlet	360	X-04-200_P7080006
X-04-200	Looking at culvert outlet	180	X-04-200_P7080007
X-04-200	Looking at two Common Carp @ 669 and 497mm (released)	N/A	X-04-200_P7080008
X-04-201	Looking upstream from culvert crossing	270	X-04-201_P7080009
X-04-201	Looking downstream from culvert crossing	90	X-04-201_P7080010
X-04-201	Looking at culvert inlet	45	X-04-201_P7080011
X-04-201	Looking at culvert outlet	315	X-04-201_P7080012
X-04-202	Looking upstream from culvert crossing	90	X-04-202_P7080013
X-04-202	Looking downstream from culvert crossing	270	X-04-202_P7080014
X-04-202	Looking at culvert inlet	120	X-04-202_P7080015
X-04-202	Looking at culvert outlet	45	X-04-202_P7080016
X-04-203	Looking upstream from culvert crossing	90	X-04-203_P7130001
X-04-203	Looking downstream from culvert crossing	270	X-04-203_P7130002
X-04-203	Looking at culvert inlet	210	X-04-203_P7130003
X-04-203	Looking at culvert outlet	135	X-04-203_P7130004
X-04-204	Looking upstream from culvert crossing	330	X-04-204_P7130005
X-04-204	Looking downstream from culvert crossing	140	X-04-204_P7130006
X-04-204	Looking at culvert inlet	140	X-04-204_P7130007
X-04-204	Looking at culvert outlet	360	X-04-204_P7130008
X-04-205	Looking upstream from left bank	90	X-04-205_P7130009
X-04-205	Looking downstream from left bank	180	X-04-205_P7130010
X-04-206	Looking upstream from culvert crossing	180	X-04-206_P7130012
X-04-206	Looking at culvert inlet	90	X-04-206_P7130013
X-04-206	Looking downstream from culvert crossing	90	X-04-206_P7130014
X-04-206	Looking at culvert outlet	270	X-04-206_P7130015
X-04-207	Looking upstream from culvert crossing	360	X-04-207_P7130016
X-04-207	Looking downstream from culvert crossing	180	X-04-207_P7130017
X-04-207	Looking at culvert inlet	135	X-04-207_P7130018
X-04-207	Looking at culvert outlet	305	X-04-207_P7130019
X-04-208	Looking upstream from bridge crossing	45	X-04-208_P7140001

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-208	Looking downstream from bridge crossing	200	X-04-208_P7140002
X-04-208	Looking downstream under bridge	200	X-04-208_P7140003
X-04-209	Looking upstream from bridge crossing	45	X-04-209_P7140004
X-04-209	Looking downstream from bridge crossing	215	X-04-209_P7140005
X-04-209	Looking at 304mm TL Burbot (released)	N/A	X-04-209_P7140006
X-04-210	Looking downstream from bridge crossing	N/A	X-04-210_P7140007
X-04-210	Looking upstream from bridge crossing	360	X-04-210_P7140008
X-04-211	Looking upstream from culvert crossing	180	X-04-211_P7140009
X-04-211	Looking downstream from culvert crossing	190	X-04-211_P7140010
X-04-211	Looking at culvert inlet	55	X-04-211_P7140011
X-04-211	Looking at culvert outlet	N/A	X-04-211_P7140012
X-04-212	Looking upstream from culvert crossing	305	X-04-212_P7150013
X-04-212	Looking downstream from culvert crossing	90	X-04-212_P7150014
X-04-212	Looking at culvert inlet	60	X-04-212_P7150015
X-04-212	Looking at culvert outlet	45	X-04-212_P7150016
X-04-213	Looking upstream from culvert crossing	270	X-04-213_P7150017
X-04-213	Looking downstream from culvert crossing	90	X-04-213_P7150018
X-04-213	Looking at culvert inlet	45	X-04-213_P7150019
X-04-213	Looking at culvert outlet	305	X-04-213_P7150020
X-04-214	Looking upstream from culvert crossing	27	X-04-214_P7150021
X-04-214	Looking downstream from culvert crossing	90	X-04-214_P7150022
X-04-214	Looking at culvert inlet	125	X-04-214_P7150023
X-04-214	Looking at culvert outlet	325	X-04-214_P7150024
X-04-214	Looking upstream of Mandryk Drain	180	X-04-214_P7150025
X-04-215	Looking upstream from culvert crossing	270	X-04-215_P7150026
X-04-215	Looking downstream from culvert crossing	90	X-04-215_P7150027
X-04-215	Looking at culvert inlet	45	X-04-215_P7150028
X-04-215	Looking at culvert outlet	305	X-04-215_P7150029
X-04-216	Looking upstream from left bank	270	X-04-216_P7160001
X-04-216	Looking downstream from left bank	360	X-04-216_P7160002
X-04-217	Looking upstream from left bank	270	X-04-217_P7160003
X-04-217	Looking downstream from left bank	90	X-04-217_P7160004
X-04-218	Looking upstream from culvert crossing	225	X-04-218_P7160006

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-218	Looking downstream from culvert crossing	90	X-04-218_P7160007
X-04-218	Looking at culvert inlet	135	X-04-218_P7160008
X-04-218	Looking at culvert outlet	225	X-04-218_P7160009
X-04-219	Looking upstream from culvert crossing	270	X-04-219_P7160010
X-04-219	Looking downstream from culvert crossing	90	X-04-219_P7160011
X-04-219	Looking at culvert inlet	45	X-04-219_P7160012
X-04-219	Looking at culvert outlet	215	X-04-219_P7160013
X-04-220	Looking upstream from left bank of Washow Bay Creek	270	X-04-220_P7160014
X-04-221	Looking upstream from left bank	30	X-04-221_P7160015
X-04-221	Looking downstream from left bank	150	X-04-221_P7160016
X-04-221	Looking at 141mm White Sucker, 147mm Rock Bass and 163mm Common Carp (released)	N/A	X-04-221_P7160017
X-04-221	Looking at four Rock Bass at 68, 70, 62 and 61mm (released)	N/A	X-04-221_P7160018
X-04-222	Looking upstream from culvert crossing	345	X-04-222_P7190001
X-04-222	Looking downstream from culvert crossing	165	X-04-222_P7190002
X-04-222	Looking at culvert inlet	90	X-04-222_P7190003
X-04-222	Looking at culvert outlet	360	X-04-222_P7190004
X-04-222	Looking at 2 White Sucker @ 142 and 143mm (released)	N/A	X-04-222_P7190005
X-04-223	Looking upstream from culvert crossing	45	X-04-223_P7200001
X-04-223	Looking downstream from culvert crossing	205	X-04-223_P7200002
X-04-223	Looking at culvert inlet	245	X-04-223_P7200003
X-04-223	Looking at culvert outlet	315	X-04-223_P7200004
X-04-223	Looking at 139mm White Sucker (released)	N/A	X-04-223_P7200005
X-04-224	Looking upstream from culvert crossing	315	X-04-224_P7200006
X-04-224	Looking downstream from culvert crossing	135	X-04-224_P7200007
X-04-224	Looking at culvert inlet	25	X-04-224_P7200008
X-04-224	Looking at culvert outlet	270	X-04-224_P7200009
X-04-225	Looking upstream from middle of riffle	75	X-04-225_P7200010
X-04-225	Looking downstream from middle of riffle	195	X-04-225_P7200011
X-04-226	Looking upstream from culvert crossing	255	X-04-226_P7200012
X-04-226	Looking downstream from culvert crossing	60	X-04-226_P7200013
X-04-226	Looking at culvert inlet	120	X-04-226_P7200014
X-04-226	Looking at culvert outlet	315	X-04-226_P7200015

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-227	Looking upstream from culvert crossing	30	X-04-227_P7200016
X-04-227	Looking downstream from culvert crossing	180	X-04-227_P7200017
X-04-227	Looking at culvert inlet	150	X-04-227_P7200018
X-04-227	Looking at culvert outlet	45	X-04-227_P7200019
X-04-228	Looking downstream from culvert crossing	360	X-04-228_P7210001
X-04-228	Looking upstream from culvert crossing	100	X-04-228_P7210002
X-04-228	Looking at culvert outlet	120	X-04-228_P7210003
X-04-228	Looking at culvert inlet	45	X-04-228_P7210004
X-04-228	Looking at beaver dam obstructing middle corrugated metal pipe	90	X-04-228_P7210005
X-04-229	Looking upstream from bridge crossing	180	X-04-229_P7210006
X-04-229	Looking downstream from bridge crossing	325	X-04-229_P7210007
X-04-230	Looking upstream from culvert crossing	345	X-04-230_P7210008
X-04-230	Looking downstream from culvert crossing	180	X-04-230_P7210009
X-04-230	Looking at culvert inlet	125	X-04-230_P7210010
X-04-230	Looking at culvert outlet	295	X-04-230_P7210011
X-04-231	Looking upstream from culvert crossing	90	X-04-231_P7210012
X-04-231	Looking downstream from culvert crossing	270	X-04-231_P7210013
X-04-231	Looking down at culvert inlet (2/3 full)	N/A	X-04-231_P7210014
X-04-231	Looking down at culvert outlet	N/A	X-04-231_P7210015
X-04-232	Looking upstream from culvert crossing	360	X-04-232_P7220001
X-04-232	Looking downstream from culvert crossing	180	X-04-232_P7220002
X-04-232	Looking at culvert inlet	135	X-04-232_P7220003
X-04-232	Looking at culvert outlet	45	X-04-232_P7220004
X-04-232	Looking at culvert with beaver deceiver	360	X-04-232_P7220005
X-04-233	Looking upstream from bridge crossing	40	X-04-233_P7220006
X-04-233	Looking downstream from bridge crossing	270	X-04-233_P7220007
X-04-234	Looking upstream from right corrugated metal pipe	90	X-04-234_P7220008
X-04-234	Looking upstream from left corrugated metal pipe	110	X-04-234_P7220009
X-04-234	Looking downstream from right corrugated metal pipe	280	X-04-234_P7220010
X-04-234	Looking downstream from left corrugated metal pipe	260	X-04-234_P7220011
X-04-234	Looking at culvert inlet	N/A	X-04-234_P7220012
X-04-234	Looking at culvert inlet	N/A	X-04-234_P7220013
X-04-234	Looking at culvert outlet	N/A	X-04-234_P7220014

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-234	Looking at culvert outlet	N/A	X-04-234_P7220015
X-04-235	Looking upstream from culvert crossing	135	X-04-235_P7220016
X-04-235	Looking downstream from culvert crossing	270	X-04-235_P7220017
X-04-235	Looking at culvert inlet	45	X-04-235_P7220018
X-04-235	Looking at culvert outlet	315	X-04-235_P7220019
X-04-236	Looking upstream from culvert crossing	180	X-04-236_P7220020
X-04-236	Looking downstream from culvert crossing	360	X-04-236_P7220021
X-04-236	Looking at culvert inlet	45	X-04-236_P7220022
X-04-236	Looking at culvert outlet	90	X-04-236_P7220023
X-04-237	Looking upstream from bridge crossing	270	X-04-237_P7220024
X-04-237	Looking downstream from bridge crossing	90	X-04-237_P7220025
X-04-238	Looking upstream from left bank	345	X-04-238_P7220026
X-04-238	Looking downstream from left bank	150	X-04-238_P7220027
X-04-238	Looking upstream from culvert crossing	345	X-04-238_P7220028
X-04-238	Looking downstream from culvert crossing	150	X-04-238_P7220029
X-04-238	Looking at culvert inlet	150	X-04-238_P7220030
X-04-238	Looking at culvert outlet	345	X-04-238_P7220031
X-04-239	Looking upstream from right bank	30	X-04-239_P7220032
X-04-239	Looking downstream from right bank	180	X-04-239_P7220033
X-04-239	Looking at three Burbot 273, 283, and 304mm TL (released)	N/A	X-04-239_P7220034
X-04-240	Looking upstream from culvert crossing	300	X-04-240_P7260001
X-04-240	Looking downstream from culvert crossing	120	X-04-240_P7260002
X-04-240	Looking at culvert inlet	135	X-04-240_P7260003
X-04-240	Looking at culvert outlet	325	X-04-240_P7260004
X-04-241	Looking upstream from bridge crossing	350	X-04-241_P7260005
X-04-241	Looking downstream from bridge crossing	135	X-04-241_P7260006
X-04-241	Looking at bridge and dirt road	N/A	X-04-241_P7260007
X-04-242	Looking upstream from culvert crossing	315	X-04-242_P7260008
X-04-242	Looking downstream from culvert crossing	90	X-04-242_P7260009
X-04-242	Looking at culvert inlet	45	X-04-242_P7260010
X-04-242	Looking at culvert outlet	360	X-04-242_P7260011
X-04-243	Looking upstream from culvert crossing	315	X-04-243_P7260012
X-04-243	Looking downstream from culvert crossing	135	X-04-243_P7260013

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-243	Looking at culvert inlet	135	X-04-243_P7260014
X-04-243	Looking at culvert outlet	315	X-04-243_P7260015
X-04-244	Looking upstream from bridge crossing	360	X-04-244_P7260016
X-04-244	Looking downstream from bridge crossing Looking at dam	190	X-04-244_P7260017
X-04-244	Looking down at meter station	90	X-04-244_P7260018
X-04-244	Looking at log jam under bridge	255	X-04-244_P7260019
X-04-245	Looking upstream from bridge crossing looking at dam	90	X-04-245_P7260020
X-04-245	Looking downstream from bridge crossing	230	X-04-245_P7260021
X-04-245	Looking upstream at dam	90	X-04-245_P7260022
X-04-245	Looking down at meter station	180	X-04-245_P7260023
X-04-246	Looking downstream from culvert crossing	180	X-04-246_P7260024
X-04-246	Looking at culvert outlet	360	X-04-246_P7260025
X-04-246	Looking at grated culvert inlet 150m downstream of culvert crossing	225	X-04-246_P7260026
X-04-246	Looking upstream from culvert crossing	15	X-04-246_P7260027
X-04-246	Looking at culvert inlet	175	X-04-246_P7260028
X-04-247	Looking upstream from culvert crossing	270	X-04-247_P7280029
X-04-247	Looking downstream from culvert crossing	90	X-04-247_P7280030
X-04-247	Looking at culvert inlet	45	X-04-247_P7280031
X-04-247	Looking at culvert outlet	360	X-04-247_P7280032
X-04-248	Looking upstream from culvert crossing	290	X-04-248_P7280033
X-04-248	Looking downstream from culvert crossing	110	X-04-248_P7280034
X-04-248	Looking at culvert inlet	20	X-04-248_P7280035
X-04-248	Looking at culvert outlet	340	X-04-248_P7280036
X-04-249	Looking upstream from bridge crossing	235	X-04-249_P7280037
X-04-249	Looking downstream from bridge crossing	45	X-04-249_P7280038
X-04-250	Looking upstream from culvert crossing	270	X-04-250_P7280039
X-04-250	Looking downstream from culvert crossing	60	X-04-250_P7280040
X-04-250	Looking at culvert inlet	360	X-04-250_P7280041
X-04-250	Looking at culvert outlet	310	X-04-250_P7280042
X-04-251	Looking at dead White Sucker found at outflow	N/A	X-04-251_P7280043
X-04-251	Looking downstream from pump outlet	170	X-04-251_P7280044
X-04-251	Looking at pump outlet/inlet	350	X-04-251_P7280045
X-04-251	Looking at pump equipment	170	X-04-251_P7280046

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-04-252	Looking downstream from pump outlet	160	X-04-252_P7280047
X-04-252	Looking at pump outlet/inlet	270	X-04-252_P7280048
X-04-252	Looking at pump equipment	180	X-04-252_P7280049
X-04-253	Looking upstream at gradient control riffle from right bank	45	X-04-253_P7300001
X-04-253	Looking upstream from riffle on right bank	90	X-04-253_P7300002
X-04-253	Looking downstream from riffle on right bank	270	X-04-253_P7300003
X-04-253	Looking at Sauger @ 295, 242 and 203mm fork length (released)	N/A	X-04-253_P7300004
X-04-253	Photo of Shorthead Redhorse 360mm before release	N/A	X-04-253_P7300005
X-04-253	Photo of 360mm Shorthead Redhorse before release	N/A	X-04-253_P7300006
X-04-253	Photo of 288mm White Sucker before release	N/A	X-04-253_P7300007
X-04-254	Looking upstream from left bank	110	X-04-254_P7300008
X-04-254	Looking downstream from left bank	250	X-04-254_P7300009
X-04-254	Looking at gauging control station	180	X-04-254_P7300010
X-04-255	Looking upstream from riffle on left bank	100	X-04-255_P7300011
X-04-255	Looking downstream from riffle on left bank	280	X-04-255_P7300012
X-04-256	Looking upstream at siphon overflow	135	X-04-256_P8030001
X-04-256	Looking downstream at siphon outlet	315	X-04-256_P8030002
X-04-256	Looking at siphon outlet	225	X-04-256_P8030003
X-04-256	Looking upstream from siphon inlet	135	X-04-256_P8030004
X-04-256	Looking at siphon inlet	135	X-04-256_P8030005
X-04-256	Looking at left siphon inlet	135	X-04-256_P8030006
X-04-256	Looking at right siphon inlet	135	X-04-256_P8030007
X-04-256	Looking downstream from siphon overflow	315	X-04-256_P8030008
X-04-256	Looking at siphon overflow outlets	180	X-04-256_P8030009
X-04-256	Looking at dead Walleye or Sauger at siphon overflow outlet	N/A	X-04-256_P8030010
X-04-256	Photo of 333mm Channel Catfish before release	N/A	X-04-256_P8030011
X-04-256	Photo of Walleye	N/A	X-04-256_P8030012
X-04-256	Photo of Troutperch	N/A	X-04-256_P8030014
X-04-256	Photo of two Goldeye	N/A	X-04-256_P8030015
X-04-256	Photo of two Goldeye	N/A	X-04-256_P8030016
X-04-257	Looking upstream from bridge crossing	80	X-04-257_P8030017
X-04-257	Looking downstream from bridge crossing	260	X-04-257_P8030018
X-04-258	Looking upstream from bridge crossing	270	X-04-258_P8040001

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-04-258	Looking downstream from bridge crossing	90	X-04-258_P8040002
X-04-259	Looking upstream from left bank at flooded low-level crossing	180	X-04-259_P8050001
X-04-259	Looking downstream from left bank at flooded low-level crossing	360	X-04-259_P8050002
X-04-259	Looking at flooded low level crossing from left bank	270	X-04-259_P8050003
X-04-259	Looking at Denil fishway	360	X-04-259_P8050004
X-04-259	Looking at Denil fishway from left bank	270	X-04-259_P8050005
X-04-260	Looking upstream from low-level crossing	235	X-04-260_P8050006
X-04-260	Looking downstream from low-level crossing	90	X-04-260_P8050007
X-04-260	Looking at culvert inlets	180	X-04-260_P8050008
X-04-260	Looking at culvert outlets	180	X-04-260_P8050009
X-04-261	Looking upstream from low-level crossing	45	X-04-261_P8060001
X-04-261	Looking downstream from low-level crossing	235	X-04-261_P8060002
X-04-261	Looking at culvert inlets	350	X-04-261_P8060003
X-04-261	Looking at culvert outlets	350	X-04-261_P8060004
X-04-262	Looking upstream from riffle	270	X-04-262_P8060005
X-04-262	Looking downstream from riffle	65	X-04-262_P8060006
X-04-262	Looking at riffle	360	X-04-262_P8060007
X-04-262	Photo of Logperch 104mm, 103mm, 101mm, 108mm before release	N/A	X-04-262_P8060008
X-04-263	Looking upstream from dam	170	X-04-263_P8060011
X-04-263	Looking downstream from dam	350	X-04-263_P8060012
X-04-263	Looking at dam from left bank	225	X-04-263_P8060013
D-05-001	Looking upstream from bridge crossing	270	D-05-001_P4050001
D-05-001	Looking downstream from bridge crossing	70	D-05-001_P4050002
D-05-001	Looking upstream from bridge crossing	190	D-05-001_P4050003
D-05-001	Looking south under PTH 20 bridge	180	D-05-001_P4050004
D-05-001	Looking downstream from bridge crossing	30	D-05-001_P4050005
D-05-001	Looking downstream from bridge crossing	30	D-05-001_P4050006
D-05-002	Looking upstream from above bridge crossing	180	D-05-002_P4050007
D-05-002	Looking east under bridge	100	D-05-002_P4050008
D-05-002	Looking downstream from bridge crossing	90	D-05-002_P4050009
D-05-002	Looking northwest under bridge	290	D-05-002_P4050010
D-05-003	Looking upstream from culvert crossing	270	D-05-003_P4050011
D-05-003	Looking downstream from culvert crossing at Lake Dauphin	90	D-05-003_P4050012

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-05-004	White Sucker observed in drain	N/A	D-05-004_P4140006
D-05-004	Looking upstream from culvert crossing	270	D-05-004_P4140007
D-05-004	Looking downstream from culvert crossing	90	D-05-004_P4140008
D-05-004	Looking at culvert outlets	180	D-05-004_P4140009
D-05-004	Looking at culvert inlets	180	D-05-004_P4140010
D-05-005	Looking upstream from culvert crossing	270	D-05-005_P4140011
D-05-005	Looking downstream from culvert crossing	90	D-05-005_P4140012
D-05-005	Looking at culvert outlets	0	D-05-005_P4140013
D-05-005	Looking at culvert inlets	0	D-05-005_P4140014
D-05-006	Looking upstream from concrete culvert crossing	270	D-05-006_P4140015
D-05-006	Looking downstream from concrete culvert crossing	90	D-05-006_P4140016
D-05-006	Looking at culvert inlets	0	D-05-006_P4140017
D-05-006	Looking at culvert outlets	0	D-05-006_P4140018
D-05-007	Looking upstream from bridge crossing	270	D-05-007_P4140019
D-05-007	Looking downstream from bridge crossing	90	D-05-007_P4140020
D-05-007	Cobble and boulders under and downstream from bridge	180	D-05-007_P4140021
D-05-007	Suckers congregating under bridge in drain	N/A	D-05-007_P4140022
D-05-008	Looking upstream from culvert crossing	270	D-05-008_P4140023
D-05-008	Looking downstream from culvert crossing	90	D-05-008_P4140024
D-05-008	Looking at culvert outlets	0	D-05-008_P4140025
D-05-008	Looking at culvert inlets	180	D-05-008_P4140026
D-05-009	Looking upstream from bridge crossing	270	D-05-009_P4140027
D-05-009	Looking downstream from bridge crossing	90	D-05-009_P4140028
D-05-011	Preparing Electrofishing Boat	270	D-05-011_P6010001
D-05-011	Commencing electrofishing	270	D-05-011_P6010002
D-05-011	White Sucker, 330mm, released	N/A	D-05-011_P6010003
D-05-011	Looking upstream from mid-reach	190	D-05-011_P6010004
D-05-011	Looking southwest at old river channel	270	D-05-011_P6010005
D-05-011	Looking downstream from mid-reach	330	D-05-011_P6010006
D-05-011	Walleye, 246mm, collected	N/A	D-05-011_P6010008
D-05-011	Walleye, 586mm, released	N/A	D-05-011_P6010010
D-05-011	Troutperch, collected	N/A	D-05-011_P6010011
D-05-011	White Sucker, 412mm, released	N/A	D-05-011_P6010012

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
D-05-011	White Sucker, 412mm, released	N/A	D-05-011_P6010013
D-05-011	White Sucker, 421mm, released	N/A	D-05-011_P6010014
D-05-011	White Sucker, 386mm, released	N/A	D-05-011_P6010015
D-05-012	Looking upstream from mid-reach	180	D-05-012_P6090001
D-05-012	Looking downstream from mid-reach	0	D-05-012_P6090002
D-05-013	Looking upstream from immediately below sheet pile weir	180	D-05-013_P7200001
D-05-013	Looking downstream from immediately above sheet pile weir	90	D-05-013_P7200002
D-05-013	Looking south across river at sediment deposition	180	D-05-013_P7200003
D-05-013	Looking south from diversion channel at sediment deposition	180	D-05-013_P7200004
D-05-013	Part of a panorama looking SW to W across main channel of the Pembina River noting shale and sediment deposition	220	D-05-013_P7200005
D-05-013	Part of a panorama looking SW to W across main channel of the Pembina River noting shale and sediment deposition	230	D-05-013_P7200006
D-05-013	Part of a panorama looking SW to W across main channel of the Pembina River noting shale and sediment deposition	250	D-05-013_P7200007
D-05-013	Part of a panorama looking SW to W across main channel of the Pembina River noting shale and sediment deposition	270	D-05-013_P7200008
D-05-014	Looking north at control structure	0	D-05-014_P7200009
D-05-014	Looking south from control structure	180	D-05-014_P7200010
D-05-015	Looking upstream from crossing at Pelican Lake Diversion Channel	0	D-05-015_P7200011
D-05-015	Looking upstream (south) from crossing at Enhancement Channel	180	D-05-015_P7200012
D-05-015	Intake control structure leading to Pelican lake Diversion Channel	50	D-05-015_P7200013
D-05-015	Culvert outlets from intake control to Pelican Lake Diversion Channel	270	D-05-015_P7200014
D-05-015	Upstream (south) end of culverts on the Pelican Lake Enhancement Channel leading to Pelican Lake	180	D-05-015_P7200015
D-05-015	White Sucker, 441mm, released	N/A	D-05-015_P7210001
D-05-015	White Sucker, 404mm, released	N/A	D-05-015_P7210002
D-05-015	White Sucker, 404mm, released	N/A	D-05-015_P7210003
D-05-016	Looking upstream from Pembina River bridge crossing at sediment deposition on left bank	270	D-05-016_P7200016
D-05-016	Looking downstream from bridge crossing on the Pembina River	90	D-05-016_P7200017
D-05-016	View of fine pulverized shale/sand deposited on bank.	270	D-05-016_P7200018
D-05-017	Part of 4 photo panorama looking upstream from culvert crossing	270	D-05-017_P7210004

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-05-017	Part of 4 photo panorama looking upstream from culvert crossing	300	D-05-017_P7210005
D-05-017	Part of 4 photo panorama looking upstream from culvert crossing	330	D-05-017_P7210006
D-05-017	Part of 4 photo panorama looking upstream from culvert crossing. Note whirlpool at submerged culvert inlets	45	D-05-017_P7210007
D-05-017	Looking at culvert inlets	30	D-05-017_P7210008
D-05-017	Looking downstream from culvert crossing	150	D-05-017_P7210009
D-05-017	Looking at culvert outlets	270	D-05-017_P7210010
D-05-018	Looking upstream from culvert crossing	0	D-05-018_P8030001
D-05-018	Looking downstream from culvert crossing	270	D-05-018_P8030002
D-05-018	Looking at culvert inlets	0	D-05-018_P8030003
D-05-018	Looking at culvert outlets	0	D-05-018_P8030004
D-05-018	One of 3 Northern Pike released (153mm - 160mm)	N/A	D-05-018_P8030005
D-05-019	Looking southeast at control structure	150	D-05-019_P8030006
D-05-019	Looking southeast at control structure	150	D-05-019_P8030007
D-05-019	Looking downstream from culvert crossing immediately downstream of control structure.	290	D-05-019_P8030008
D-05-019	Northern Pike (201mm) released.	N/A	D-05-019_P8030009
D-05-020	Looking upstream from culvert crossing	270	D-05-020_P8040001
D-05-020	Looking downstream from culvert crossing	90	D-05-020_P8040002
D-05-020	Looking at culvert inlets	180	D-05-020_P8040003
D-05-020	Looking at culvert outlets	0	D-05-020_P8040004
D-05-021	Looking upstream from culvert crossing	300	D-05-021_P8040005
D-05-021	Looking downstream from culvert crossing	90	D-05-021_P8040006
D-05-022	Looking upstream from culvert crossing	300	D-05-022_P8040007
D-05-022	Looking downstream from culvert crossing	120	D-05-022_P8040008
D-05-023	Looking upstream from culvert crossing at control structure	270	D-05-023_P8160001
D-05-023	Looking downstream from culvert crossing	90	D-05-023_P8160002
D-05-023	Control structure inlet	90	D-05-023_P8160003
D-05-023	Looking at culvert outlets	0	D-05-023_P8160004
D-05-023	White Sucker released	N/A	D-05-023_P8160005
D-05-023	White Sucker released	N/A	D-05-023_P8160006
D-05-023	White Sucker released	N/A	D-05-023_P8160007
D-05-023	Photo of Northern Pike collected	N/A	D-05-023_P8160008

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
D-05-024	Looking upstream at weir	220	D-05-024_P8160009
D-05-024	Looking downstream at shale deposit in the inlet to the Pelican Lake Enhancement Channel	0	D-05-024_P8160010
D-05-024	Looking downstream from 20m upstream of weir	20	D-05-024_P8160011
D-05-025	Looking upstream from culvert crossing on Burr Oak Bay Road	150	D-05-025_P8170001
D-05-025	Looking downstream from culvert crossing on Burr Oak Bay Road	300	D-05-025_P8170002
D-05-025	Looking SSE at culvert outlet perched 0.5m	120	D-05-025_P8170003
D-05-025	Looking NE at culvert inlet	30	D-05-025_P8170004
D-05-025	Looking NW at Henderson Highway crossing culvert inlet	280	D-05-025_P8170005
D-05-025	Looking east at Henderson Highway crossing culvert outlet	90	D-05-025_P8170006
D-05-025	Looking downstream from below Henderson Highway crossing	300	D-05-025_P8170007
D-05-026	Looking downstream from culvert crossing	90	D-05-026_P8300001
D-05-026	Looking upstream from culvert crossing	270	D-05-026_P8300002
D-05-026	Looking south at culvert inlets	180	D-05-026_P8300003
D-05-026	Looking north at culvert inlets	0	D-05-026_P8300004
D-05-027	Looking downstream at old dam	90	D-05-027_P8300005
D-05-027	Looking N across old dam	0	D-05-027_P8300006
D-05-027	Looking NE at channel downstream from dam	45	D-05-027_P8300007
W-05-001	Looking upstream from culvert crossing	270	W-05-001_P5020001
W-05-001	Looking downstream from cobble crossing	90	W-05-001_P5020002
W-05-001	Looking down at dead suckers in rocks	N/A	W-05-001_P5020003
W-05-001	The Ashley's doing water quality testing	35	W-05-001_P5020004
W-05-001	The Ashley's electrofishing	130	W-05-001_P5020005
W-05-001	The Ashley's electrofishing from cobble crossing	220	W-05-001_P5020006
W-05-001	Photo of the Ashley's electrofishing upstream from cobble crossing	270	W-05-001_P5020007
W-05-002	Looking upstream from culvert crossing	270	W-05-002_P5020008
W-05-002	Looking downstream from culvert crossing	90	W-05-002_P5020009
W-05-002	Looking at culvert inlet from the road	60	W-05-002_P5020010
W-05-002	Looking at culvert outlet	320	W-05-002_P5020011
W-05-003	Looking upstream from culvert crossing	270	W-05-003_P5020012
W-05-003	Looking downstream from culvert crossing	90	W-05-003_P5020013
W-05-003	Looking at culvert inlet	90	W-05-003_P5020014
W-05-003	Looking at culvert outlet	270	W-05-003_P5020015

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-004	Looking upstream from culvert crossing	270	W-05-004_P5020016
W-05-004	Looking downstream from culvert crossing	90	W-05-004_P5020017
W-05-004	Looking at culvert inlet	90	W-05-004_P5020018
W-05-004	Looking at culvert outlet	270	W-05-004_P5020019
W-05-005	Looking upstream from bridge crossing	270	W-05-005_P5020020
W-05-005	Looking downstream from bridge crossing	90	W-05-005_P5020021
W-05-006	Looking upstream from culvert crossing	270	W-05-006_P5020022
W-05-006	Looking downstream from culvert crossing	90	W-05-006_P5020023
W-05-006	Looking at culvert inlet	90	W-05-006_P5020024
W-05-006	Looking at culvert outlet	270	W-05-006_P5020025
W-05-007	Looking upstream from bridge crossing	270	W-05-007_P5020026
W-05-007	Looking downstream from bridge crossing	90	W-05-007_P5020027
W-05-008	Looking upstream from bridge crossing	270	W-05-008_P5020028
W-05-008	Looking downstream from bridge crossing	90	W-05-008_P5020029
W-05-009	Looking upstream from culvert crossing	270	W-05-009_P5020030
W-05-009	Looking downstream from culvert crossing	90	W-05-009_P5020031
W-05-009	Looking at culvert inlet	90	W-05-009_P5020032
W-05-009	Looking at culvert outlet	270	W-05-009_P5020033
W-05-010	Looking upstream from bridge crossing	270	W-05-010_P5020034
W-05-010	Looking downstream from bridge crossing	90	W-05-010_P5020035
W-05-011	Looking upstream from bridge crossing	270	W-05-011_P5020036
W-05-011	Looking downstream from bridge crossing	90	W-05-011_P5020037
W-05-011	Looking upstream of fish barrier	N/A	W-05-011_P5020038
W-05-011	Photo of bank erosion upstream (300 m upstream)	N/A	W-05-011_P5020039
W-05-012	Looking upstream from culvert crossing	310	W-05-012_P5030001
W-05-012	Looking upstream from culvert at pool	220	W-05-012_P5030002
W-05-012	Looking downstream from culvert crossing	120	W-05-012_P5030003
W-05-012	Photos of suckers by measuring stick (released)	N/A	W-05-012_P5030004
W-05-013	Looking upstream from culvert crossing	270	W-05-013_P5030005
W-05-013	Looking downstream from culvert crossing	90	W-05-013_P5030006
W-05-013	Looking at culvert outlet	270	W-05-013_P5030007
W-05-013	Looking at culvert inlet	90	W-05-013_P5030008
W-05-014	Photo of suckers to be released	N/A	W-05-014_P5030009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-014	Photo of suckers to be released	N/A	W-05-014_P5030010
W-05-014	Photo of suckers to be released	N/A	W-05-014_P5030011
W-05-014	Looking upstream from bridge crossing	270	W-05-014_P5030012
W-05-014	Looking downstream from bridge crossing	90	W-05-014_P5030013
W-05-015	Looking upstream from bridge crossing	270	W-05-015_P5030014
W-05-014	Looking downstream from bridge crossing	90	W-05-014_P5030015
W-05-016	Looking upstream from culvert crossing	220	W-05-016_P5030016
W-05-016	Looking downstream from culvert crossing	40	W-05-016_P5030017
W-05-016	Looking at culvert inlet	60	W-05-016_P5030018
W-05-016	Looking at culvert outlet	255	W-05-016_P5030019
W-05-016	Photo of sucker on measuring stick (to be released)	N/A	W-05-016_P5030020
W-05-017	Looking upstream from bridge crossing	0	W-05-017_P5040001
W-05-017	Looking downstream from bridge crossing	180	W-05-017_P5040002
W-05-017	Looking upstream riffle from under bridge	0	W-05-017_P5040003
W-05-017	Photo of a sucker to be released	N/A	W-05-017_P5040004
W-05-017	Photo of a sucker to be released	N/A	W-05-017_P5040005
W-05-017	Photo of the largest sucker captured (to be released)	N/A	W-05-017_P5040006
W-05-018	Looking upstream from culvert crossing	270	W-05-018_P5040007
W-05-018	Looking downstream from culvert crossing	90	W-05-018_P5040008
W-05-018	Looking at culvert inlet	90	W-05-018_P5040009
W-05-018	Looking at culvert outlet	270	W-05-018_P5040010
W-05-019	Looking upstream from culvert crossing	270	W-05-019_P5040011
W-05-019	Looking downstream from culvert crossing	180	W-05-019_P5040012
W-05-019	Looking at culvert inlet	200	W-05-019_P5040013
W-05-019	Looking at culvert outlet	300	W-05-019_P5040014
W-05-020	Looking upstream from culvert crossing	270	W-05-020_P5040015
W-05-020	Looking downstream from the culvert	90	W-05-020_P5040016
W-05-021	Looking upstream from culvert crossing	270	W-05-021_P5040017
W-05-021	Looking downstream from culvert crossing	90	W-05-021_P5040018
W-05-021	Looking at culvert inlet	90	W-05-021_P5040019
W-05-021	Looking at culvert outlet	200	W-05-021_P5040020
W-05-022	Looking upstream from culvert crossing	320	W-05-022_P5040021
W-05-022	Looking downstream from culvert crossing	130	W-05-022_P5040022

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-05-022	Looking at culvert inlet	80	W-05-022_P5040023
W-05-022	Looking at culvert outlet	270	W-05-022_P5040024
W-05-023	Looking upstream from ford crossing	270	W-05-023_P5050001
W-05-023	Looking downstream from ford crossing	90	W-05-023_P5050002
W-05-023	Looking at culvert outlet	90	W-05-023_P5050003
W-05-023	Looking at culvert inlet	270	W-05-023_P5050004
W-05-023	Looking at perched gated culvert on left bank downstream of ford	300	W-05-023_P5050005
W-05-024	Looking upstream from ford crossing	270	W-05-024_P5050006
W-05-024	Looking downstream from ford crossing	90	W-05-024_P5050007
W-05-024	Looking at culvert outlet	44	W-05-024_P5050008
W-05-024	Looking at culvert inlet	220	W-05-024_P5050009
W-05-024	Photo of Black Bullhead	N/A	W-05-024_P5050010
W-05-024	Photo of Black Bullhead	N/A	W-05-024_P5050011
W-05-025	Looking upstream from culvert crossing	270	W-05-025_P5050012
W-05-025	Looking downstream from culvert crossing	90	W-05-025_P5050013
W-05-025	Looking at culvert inlet	90	W-05-025_P5050014
W-05-025	Looking at culvert outlet	270	W-05-025_P5050015
W-05-026	Looking upstream from culvert crossing	90	W-05-026_P5050016
W-05-026	Looking downstream from culvert crossing	270	W-05-026_P5050017
W-05-026	Looking at culvert inlet	120	W-05-026_P5050018
W-05-026	Looking at culvert outlet	220	W-05-026_P5050019
W-05-027	Looking upstream from left bank	15	W-05-027_P5050020
W-05-027	Looking downstream from left bank	165	W-05-027_P5050021
W-05-027	Looking at culvert inlet	90	W-05-027_P5050022
W-05-027	Looking at culvert outlet	270	W-05-027_P5050023
W-05-028	Looking upstream from bridge crossing	210	W-05-028_P5050024
W-05-028	Looking downstream from bridge crossing	40	W-05-028_P5050025
W-05-029	Looking upstream from culvert crossing	270	W-05-029_P5050026
W-05-029	Looking downstream from culvert crossing	90	W-05-029_P5050027
W-05-029	Looking at culvert inlet	160	W-05-029_P5050028
W-05-029	Looking at culvert outlet	300	W-05-029_P5050029
W-05-030	Looking upstream from culvert crossing	0	W-05-030_P5060001
W-05-030	Looking downstream from culvert crossing	180	W-05-030_P5060002

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-05-030	Looking at culvert inlet	45	W-05-030_P5060003
W-05-031	Looking upstream from culvert crossing	180	W-05-031_P5060004
W-05-031	Looking downstream from culvert crossing	0	W-05-031_P5060005
W-05-031	Looking at culvert inlet	20	W-05-031_P5060006
W-05-031	Looking at culvert outlet	150	W-05-031_P5060007
W-05-032	Looking upstream from culvert crossing	225	W-05-032_P5060008
W-05-032	Looking downstream from culvert crossing	45	W-05-032_P5060009
W-05-032	Looking at culvert inlet	45	W-05-032_P5060010
W-05-032	Looking at culvert outlet	270	W-05-032_P5060011
W-05-032	Looking at bank scour on right bank upstream of culvert crossing	105	W-05-032_P5060012
W-05-033	Looking upstream bridge crossing	0	W-05-033_P5060013
W-05-033	Looking downstream from bridge crossing	180	W-05-033_P5060014
W-05-034	Looking upstream from culvert crossing	270	W-05-034_P5060015
W-05-034	Looking downstream from culvert crossing	90	W-05-034_P5060016
W-05-034	Looking at culvert inlet	120	W-05-034_P5060017
W-05-034	Looking at culvert outlet	220	W-05-034_P5060018
W-05-035	Looking upstream from culvert crossing	270	W-05-035_P5060019
W-05-035	Looking downstream from culvert crossing	90	W-05-035_P5060020
W-05-035	Looking at culvert inlet	90	W-05-035_P5060021
W-05-035	Looking at culvert outlet	270	W-05-035_P5060022
W-05-036	Looking upstream from culvert crossing	270	W-05-036_P5090001
W-05-036	Looking downstream from culvert crossing	90	W-05-036_P5090002
W-05-036	Looking at culvert inlet	90	W-05-036_P5090003
W-05-036	Looking at culvert outlet	270	W-05-036_P5090004
W-05-037	Looking upstream from culvert crossing	270	W-05-037_P5090005
W-05-037	Looking downstream from culvert crossing	90	W-05-037_P5090006
W-05-037	Looking at culvert inlet	110	W-05-037_P5090007
W-05-037	Looking at culvert outlet	300	W-05-037_P5090008
W-05-038	Looking upstream from culvert crossing	90	W-05-038_P5090009
W-05-038	Looking downstream from culvert crossing	270	W-05-038_P5090010
W-05-038	Looking at culvert inlet	45	W-05-038_P5090011
W-05-038	Looking at culvert outlet	300	W-05-038_P5090012
W-05-039	Looking upstream from culvert crossing	0	W-05-039_P5090013

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-039	Looking downstream from culvert crossing	180	W-05-039_P5090014
W-05-039	Looking at culvert inlet	120	W-05-039_P5090015
W-05-039	Looking at culvert outlet	60	W-05-039_P5090016
W-05-040	Looking upstream from culvert crossing	270	W-05-040_P5090017
W-05-040	Looking downstream from culvert crossing	90	W-05-040_P5090018
W-05-040	Looking at culvert inlet	350	W-05-040_P5090019
W-05-040	Looking at culvert outlet	320	W-05-040_P5090020
W-05-041	Looking upstream from culvert crossing	270	W-05-041_P5100001
W-05-041	Looking downstream from culvert crossing	90	W-05-041_P5100002
W-05-041	Looking at culvert inlet	90	W-05-041_P5100003
W-05-041	Looking at culvert outlet	270	W-05-041_P5100004
W-05-042	Looking upstream from culvert crossing	315	W-05-042_P5100005
W-05-042	Looking downstream from culvert crossing	135	W-05-042_P5100006
W-05-042	Looking at culvert inlet	105	W-05-042_P5100007
W-05-042	Looking at culvert outlet	315	W-05-042_P5100008
W-05-043	Looking upstream from culvert crossing	250	W-05-043_P5100009
W-05-043	Looking downstream from culvert crossing	60	W-05-043_P5100010
W-05-043	Looking at culvert inlet	270	W-05-043_P5100011
W-05-043	Looking at culvert outlet	0	W-05-043_P5100012
W-05-044	Looking downstream from culvert crossing	330	W-05-044_P5100013
W-05-044	Looking upstream from culvert crossing	120	W-05-044_P5100014
W-05-044	Looking at culvert outlet	210	W-05-044_P5100015
W-05-044	Looking at culvert inlet	30	W-05-044_P5100016
W-05-044	Looking at bank slump around tributary culvert on right bank	90	W-05-044_P5100017
W-05-045	Looking upstream from culvert crossing	0	W-05-045_P5100018
W-05-045	Looking downstream from culvert crossing	180	W-05-045_P5100019
W-05-045	Looking at culvert inlet	30	W-05-045_P5100020
W-05-045	Looking at culvert outlet	150	W-05-045_P5100021
W-05-046	Looking upstream from bridge crossing on PR 334	270	W-05-046_P5110001
W-05-046	Looking downstream from bridge crossing on PR 334	90	W-05-046_P5110002
W-05-047	Looking upstream from culvert crossing	320	W-05-047_P5110003
W-05-047	Looking downstream from culvert crossing	90	W-05-047_P5110004
W-05-047	Looking at culvert inlet	60	W-05-047_P5110005

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-05-047	Looking at culvert outlet	320	W-05-047_P5110006
W-05-048	Looking upstream from culvert crossing	0	W-05-048_P5110007
W-05-048	Looking downstream from culvert crossing	180	W-05-048_P5110008
W-05-048	Looking at culvert outlet	0	W-05-048_P5110009
W-05-048	Looking at culvert inlet	180	W-05-048_P5110010
W-05-049	Looking upstream bridge crossing	75	W-05-049_P5110011
W-05-049	Looking downstream bridge crossing	320	W-05-049_P5110012
W-05-050	Looking upstream from culvert crossing	0	W-05-050_P5110013
W-05-050	Looking downstream from culvert crossing	180	W-05-050_P5110014
W-05-050	Looking at culvert inlet	180	W-05-050_P5110015
W-05-050	Looking at culvert outlet	0	W-05-050_P5110016
W-05-052	Looking upstream from culvert crossing	0	W-05-052_P5120001
W-05-052	Looking downstream from culvert crossing	180	W-05-052_P5120002
W-05-052	Looking at culvert inlet	225	W-05-052_P5120003
W-05-052	Looking at culvert outlet	300	W-05-052_P5120004
W-05-053	Looking upstream bridge crossing	0	W-05-053_P5120005
W-05-053	Looking downstream bridge crossing	180	W-05-053_P5120006
W-05-054	Looking upstream from culvert crossing	330	W-05-054_P5120007
W-05-054	Looking downstream from culvert crossing	150	W-05-054_P5120008
W-05-054	Looking at culvert inlet	180	W-05-054_P5120009
W-05-054	Looking at culvert outlet	310	W-05-054_P5120010
W-05-054	Looking at perched culvert and erosion of right bank upstream of culvert crossing	0	W-05-054_P5120011
W-05-054	Looking down at sediment deposition on left bank upstream of culvert crossing	N/A	W-05-054_P5120012
W-05-054	Looking at right bank slump upstream of culvert crossing	0	W-05-054_P5120013
W-05-054	Looking at unstable left bank at downstream end of culvert	180	W-05-054_P5120014
W-05-055	Looking upstream from culvert crossing	70	W-05-055_P5160001
W-05-055	Looking downstream from culvert crossing	250	W-05-055_P5160002
W-05-055	Looking at culvert inlet	340	W-05-055_P5160003
W-05-055	Looking at culvert outlet	110	W-05-055_P5160004
W-05-055	Looking at an example of slumping	350	W-05-055_P5160005
W-05-055	Looking at vegetation upstream	90	W-05-055_P5160006
W-05-056	Photo of very perched culvert over gorge 1 mi east of Pelican lake; 2 mi west-southwest of Willoughby's Lake	N/A	W-05-056_P5160007

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-05-056	Looking upstream from culvert crossing	180	W-05-056_P5160008
W-05-056	Looking downstream from culvert crossing	205	W-05-056_P5160009
W-05-056	Looking at culvert inlet (zoomed)	205	W-05-056_P5160010
W-05-056	Looking at culvert outlet	0	W-05-056_P5160011
W-05-056	Example of undercutting	N/A	W-05-056_P5160012
W-05-057	Looking upstream from bridge crossing	180	W-05-057_P5170001
W-05-057	Looking downstream from bridge crossing	70	W-05-057_P5170002
W-05-058	Looking upstream of road	170	W-05-058_P5170003
W-05-058	Looking downstream stream of road	350	W-05-058_P5170004
W-05-058	Looking at erosion on ford crossing	90	W-05-058_P5170005
W-05-058	Photo of female sucker fork length 154mm (released)	N/A	W-05-058_P5170006
W-05-058	Photo of male sucker fork length 165mm (released)	N/A	W-05-058_P5170007
W-05-058	Photo of male sucker fork length 165mm (released)	N/A	W-05-058_P5170008
W-05-058	Photo of male sucker fork length 145mm (released)	N/A	W-05-058_P5170009
W-05-059	Looking upstream from left bank	80	W-05-059_P5170010
W-05-059	Looking downstream from left bank	280	W-05-059_P5170011
W-05-060	Looking upstream from culvert crossing	180	W-05-060_P5170012
W-05-060	Looking downstream from culvert crossing	90	W-05-060_P5170013
W-05-060	Looking at culvert inlet	90	W-05-060_P5170014
W-05-060	Looking at culvert outlet	180	W-05-060_P5170015
W-05-061	Looking upstream from culvert crossing	180	W-05-061_P5180001
W-05-061	Looking downstream from culvert crossing	0	W-05-061_P5180002
W-05-061	Looking at small culvert inlet	0	W-05-061_P5180003
W-05-061	Looking at both culvert inlets	0	W-05-061_P5180004
W-05-061	Looking at culvert outlets	130	W-05-061_P5180005
W-05-062	Looking upstream cement box culvert crossing	90	W-05-062_P5180006
W-05-062	Looking downstream cement box culvert crossing	270	W-05-062_P5180007
W-05-062	Looking at culvert inlet	270	W-05-062_P5180008
W-05-062	Looking at culvert outlet	45	W-05-062_P5180009
W-05-063	Looking upstream from culvert crossing	90	W-05-063_P5180010
W-05-063	Looking downstream from culvert crossing	270	W-05-063_P5180011
W-05-063	Looking at culvert inlet	45	W-05-063_P5180012
W-05-063	Looking at culvert outlet	90	W-05-063_P5180013

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-064	Looking upstream from culvert crossing	0	W-05-064_P5180014
W-05-064	Looking downstream from culvert crossing	180	W-05-064_P5180015
W-05-065	Looking upstream from culvert crossing	0	W-05-065_P5180016
W-05-065	Looking downstream from culvert crossing	200	W-05-065_P5180017
W-05-065	Looking at culvert inlet	150	W-05-065_P5180018
W-05-065	Looking at culvert outlet	30	W-05-065_P5180019
W-05-066	Looking upstream from culvert crossing	140	W-05-066_P5180020
W-05-066	Looking downstream from culvert crossing	270	W-05-066_P5180021
W-05-066	Looking at culvert inlet	270	W-05-066_P5180022
W-05-066	Looking at culvert outlet	90	W-05-066_P5180023
W-05-067	Looking upstream at north tributary	0	W-05-067_P5190001
W-05-067	Looking at east tributary	90	W-05-067_P5190002
W-05-067	Looking downstream from culvert crossing	180	W-05-067_P5190003
W-05-067	Looking at culvert inlet	150	W-05-067_P5190004
W-05-067	Looking at culvert outlet	45	W-05-067_P5190005
W-05-068	Looking upstream from culvert crossing	90	W-05-068_P5190006
W-05-068	Looking downstream from culvert crossing	160	W-05-068_P5190007
W-05-068	Looking at culvert inlet	160	W-05-068_P5190008
W-05-068	Looking at culvert outlet	110	W-05-068_P5190009
W-05-069	Looking upstream from culvert crossing	45	W-05-069_P5190010
W-05-069	Looking downstream from culvert crossing	225	W-05-069_P5190011
W-05-069	Looking at culvert inlet	180	W-05-069_P5190012
W-05-069	Looking at culvert outlet	0	W-05-069_P5190013
W-05-070	Looking upstream from culvert crossing	90	W-05-070_P5190014
W-05-070	Looking downstream from culvert crossing	270	W-05-070_P5190015
W-05-070	Looking at culvert inlet	320	W-05-070_P5190016
W-05-070	Looking at culvert outlet	150	W-05-070_P5190017
W-05-071	Looking upstream from culvert crossing	0	W-05-071_P5200001
W-05-071	Looking downstream from culvert crossing	180	W-05-071_P5200002
W-05-071	Looking at culvert inlet	30	W-05-071_P5200003
W-05-071	Looking at culvert outlet	210	W-05-071_P5200004
W-05-072	Looking upstream from bridge crossing	115	W-05-072_P5200005
W-05-072	Looking downstream from bridge crossing	300	W-05-072_P5200006

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-072	Looking at bank scour on right bank downstream of bridge crossing	300	W-05-072_P5200007
W-05-073	Looking upstream from bridge crossing	270	W-05-073_P5240001
W-05-073	Looking downstream from bridge crossing	90	W-05-073_P5240002
W-05-074	Looking upstream from culvert crossing	120	W-05-074_P5240003
W-05-074	Looking downstream from culvert crossing	270	W-05-074_P5240004
W-05-075	Looking upstream from culvert crossing	90	W-05-075_P5240005
W-05-075	Looking downstream from culvert crossing	300	W-05-075_P5240006
W-05-075	Looking at culvert inlet	295	W-05-075_P5240007
W-05-075	Looking at culvert outlet	70	W-05-075_P5240008
W-05-076	Looking upstream from left bank north of PR 205	120	W-05-076_P5240009
W-05-076	Looking downstream from left bank north of PR 205	300	W-05-076_P5240010
W-05-076	Looking at culvert inlet	300	W-05-076_P5240011
W-05-076	Looking at culvert outlet	120	W-05-076_P5240012
W-05-077	Looking upstream from culvert crossing	90	W-05-077_P5240013
W-05-077	Looking downstream from culvert crossing	270	W-05-077_P5240014
W-05-077	Looking at culvert inlet	320	W-05-077_P5240015
W-05-077	Looking at culvert outlet	140	W-05-077_P5240016
W-05-078	Looking upstream from culvert crossing	180	W-05-078_P5250001
W-05-078	Looking downstream from culvert crossing	0	W-05-078_P5250002
W-05-078	Looking at culvert inlet	30	W-05-078_P5250003
W-05-078	Looking at culvert outlet	160	W-05-078_P5250004
W-05-079	Looking upstream from culvert crossing	270	W-05-079_P5250005
W-05-079	Looking downstream from culvert crossing	90	W-05-079_P5250006
W-05-079	Looking at culvert inlet	150	W-05-079_P5250007
W-05-079	Looking at culvert outlet	200	W-05-079_P5250008
W-05-080	Looking at ford crossing	0	W-05-080_P5250009
W-05-080	Looking downstream from ford crossing	300	W-05-080_P5250010
W-05-080	Looking upstream from ford crossing	80	W-05-080_P5250011
W-05-081	Looking upstream from bridge crossing	40	W-05-081_P5250012
W-05-081	Looking downstream from bridge crossing	220	W-05-081_P5250013
W-05-082	Looking upstream from bridge crossing	180	W-05-082_P5250014
W-05-082	Looking downstream from bridge crossing	0	W-05-082_P5250015
W-05-083	Looking at ford crossing	180	W-05-083_P5260001

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-083	Looking upstream from ford crossing	270	W-05-083_P5260002
W-05-083	Looking downstream from ford crossing	90	W-05-083_P5260003
W-05-084	Looking at culvert inlet	270	W-05-084_P5260004
W-05-084	Looking at culvert outlet	90	W-05-084_P5260005
W-05-084	Looking upstream from culvert crossing	90	W-05-084_P5260006
W-05-084	Looking downstream from culvert crossing	270	W-05-084_P5260007
W-05-084	Looking at bank erosion	220	W-05-084_P5260008
W-05-085	Looking upstream from culvert crossing	180	W-05-085_P5260009
W-05-085	Looking downstream from culvert crossing	0	W-05-085_P5260010
W-05-085	Looking at culvert inlet	0	W-05-085_P5260011
W-05-085	Looking at culvert outlet	180	W-05-085_P5260012
W-05-086	Looking upstream from bridge crossing	260	W-05-086_P5260013
W-05-086	Looking downstream from bridge crossing	100	W-05-086_P5260014
W-05-086	Looking downstream from bridge crossing	100	W-05-086_P5260015
W-05-087	Looking upstream from culvert crossing	0	W-05-087_P5270001
W-05-087	Looking downstream from culvert crossing	180	W-05-087_P5270002
W-05-087	Looking at culvert inlet	225	W-05-087_P5270003
W-05-087	Looking at culvert outlet	145	W-05-087_P5270004
W-05-088	Looking upstream from culvert crossing	340	W-05-088_P5270005
W-05-088	Looking downstream from culvert crossing	180	W-05-088_P5270006
W-05-088	Looking at culvert inlet	220	W-05-088_P5270007
W-05-088	Looking at culvert outlet	45	W-05-088_P5270008
W-05-089	Looking upstream bridge crossing	270	W-05-089_P5270009
W-05-089	Looking downstream bridge crossing	90	W-05-089_P5270010
W-05-090	Looking upstream from culvert crossing	270	W-05-090_P5270011
W-05-090	Looking downstream from culvert crossing	90	W-05-090_P5270012
W-05-090	Looking at culvert inlet	140	W-05-090_P5270013
W-05-090	Looking at culvert outlet	200	W-05-090_P5270014
W-05-091	Looking upstream from culvert crossing	0	W-05-091_P5270015
W-05-091	Looking downstream from culvert crossing	210	W-05-091_P5270016
W-05-091	Looking at culvert inlet (3 culverts)	180	W-05-091_P5270017
W-05-091	Looking at culvert outlet (3 culverts)	0	W-05-091_P5270018
W-05-091	Looking at culvert inlet	180	W-05-091_P5270019

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-091	Looking at culvert outlet	0	W-05-091_P5270020
W-05-092	Looking upstream from bridge crossing	0	W-05-092_P5270021
W-05-092	Looking upstream from bridge crossing	340	W-05-092_P5270022
W-05-092	Looking upstream from bridge crossing	300	W-05-092_P5270023
W-05-092	Looking downstream from bridge crossing	160	W-05-092_P5270024
W-05-092	Looking downstream from bridge crossing	150	W-05-092_P5270025
W-05-093	Looking downstream from bridge crossing	270	W-05-093_P5290001
W-05-093	Looking upstream from bridge crossing	90	W-05-093_P5290002
W-05-094	Looking upstream from culvert crossing	90	W-05-094_P5310008
W-05-094	Looking downstream from culvert crossing	270	W-05-094_P5310009
W-05-094	Looking at culvert inlet	300	W-05-094_P5310010
W-05-094	Looking at culvert outlet	45	W-05-094_P5310011
W-05-095	Looking at culvert inlet	90	W-05-095_P5310012
W-05-095	Looking upstream from grass crossing	270	W-05-095_P5310013
W-05-095	Looking downstream from grass crossing	90	W-05-095_P5310014
W-05-095	Looking at culvert outlet	300	W-05-095_P5310015
W-05-096	Looking upstream from culvert crossing	270	W-05-096_P5310016
W-05-096	Looking downstream from culvert crossing	90	W-05-096_P5310017
W-05-096	Looking at culvert inlet	300	W-05-096_P5310018
W-05-096	Looking at culvert outlet	150	W-05-096_P5310019
W-05-097	Looking upstream from culvert crossing	115	W-05-097_P5310020
W-05-097	Looking upstream from culvert crossing	150	W-05-097_P5310021
W-05-097	Looking upstream from culvert crossing	180	W-05-097_P5310022
W-05-097	Looking upstream from culvert crossing	230	W-05-097_P5310023
W-05-097	Looking downstream from culvert crossing	0	W-05-097_P5310024
W-05-098	Looking upstream from culvert crossing	180	W-05-098_P5310025
W-05-098	Looking downstream from culvert crossing	0	W-05-098_P5310026
W-05-098	Looking at culvert inlet	30	W-05-098_P5310027
W-05-098	Looking at culvert outlet	120	W-05-098_P5310028
W-05-099	Looking upstream from culvert crossing	180	W-05-099_P5310029
W-05-099	Looking downstream from culvert crossing	0	W-05-099_P5310030
W-05-099	Looking at culvert inlet	30	W-05-099_P5310031
W-05-099	Looking at culvert outlet	140	W-05-099_P5310032

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-100	Looking upstream from culvert crossing	180	W-05-100_P5310033
W-05-100	Photo of cattle impacts	215	W-05-100_P5310034
W-05-100	Looking downstream from culvert crossing	0	W-05-100_P5310035
W-05-100	Looking at culvert inlet	30	W-05-100_P5310036
W-05-100	Looking at culvert outlet	200	W-05-100_P5310037
W-05-101	Looking upstream from culvert crossing	180	W-05-101_P6010001
W-05-101	Looking downstream from culvert crossing	15	W-05-101_P6010002
W-05-101	Looking at culvert inlet	15	W-05-101_P6010003
W-05-101	Looking at culvert outlet	160	W-05-101_P6010004
W-05-102	Looking upstream from culvert crossing	180	W-05-102_P6010005
W-05-102	Looking downstream from culvert crossing	0	W-05-102_P6010006
W-05-102	Looking at culvert inlet	340	W-05-102_P6010007
W-05-102	Looking at culvert outlet	220	W-05-102_P6010008
W-05-103	Looking upstream from culvert crossing	180	W-05-103_P6010009
W-05-103	Looking downstream from culvert crossing	0	W-05-103_P6010010
W-05-103	Looking at culvert inlet	0	W-05-103_P6010011
W-05-103	Looking at culvert outlet	180	W-05-103_P6010012
W-05-104	Looking upstream from culvert crossing	180	W-05-104_P6010013
W-05-104	Looking downstream from culvert crossing	0	W-05-104_P6010014
W-05-104	Looking at culvert inlet	45	W-05-104_P6010015
W-05-104	Looking at culvert outlet	135	W-05-104_P6010016
W-05-104	Looking at left bank downstream of culvert crossing	90	W-05-104_P6010017
W-05-105	Looking upstream from culvert crossing at 1st order tributary	180	W-05-105_P6010018
W-05-105	Looking upstream from culvert crossing at 3rd order tributary	150	W-05-105_P6010019
W-05-105	Looking downstream from culvert crossing	0	W-05-105_P6010020
W-05-105	Looking at culvert inlet	60	W-05-105_P6010021
W-05-105	Looking at culvert outlet	170	W-05-105_P6010022
W-05-106	Looking upstream from culvert crossing	180	W-05-106_P6020001
W-05-106	Looking downstream from culvert crossing	0	W-05-106_P6020002
W-05-106	Looking at culvert inlet	0	W-05-106_P6020003
W-05-106	Looking at culvert outlet	180	W-05-106_P6020004
W-05-107	Looking upstream from culvert crossing	180	W-05-107_P6030001
W-05-107	Looking downstream from culvert crossing	45	W-05-107_P6030002

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-107	Looking at culvert inlet	45	W-05-107_P6030003
W-05-107	Looking at culvert outlet	230	W-05-107_P6030004
W-05-108	Looking upstream from culvert crossing	120	W-05-108_P6030005
W-05-108	Looking downstream from culvert crossing	310	W-05-108_P6030006
W-05-108	Looking at culvert inlet	260	W-05-108_P6030007
W-05-108	Looking at beaver dam from downstream	145	W-05-108_P6030008
W-05-108	Photo of falls (zoomed in)	180	W-05-108_P6030009
W-05-108	Looking at beaver dam from road	90	W-05-108_P6030010
W-05-109	Looking upstream from culvert crossing	90	W-05-109_P6030011
W-05-109	Looking downstream from culvert crossing	270	W-05-109_P6030012
W-05-109	Looking at culvert inlet	240	W-05-109_P6030013
W-05-109	Looking at culvert outlet	45	W-05-109_P6030014
W-05-110	Looking upstream from culvert crossing	180	W-05-110_P6040001
W-05-110	Looking downstream from culvert crossing	0	W-05-110_P6040002
W-05-110	Looking at culvert inlet	0	W-05-110_P6040003
W-05-110	Looking at culvert outlet	180	W-05-110_P6040004
W-05-111	Looking upstream from culvert crossing	230	W-05-111_P6040005
W-05-111	Looking downstream from culvert crossing	30	W-05-111_P6040006
W-05-111	Looking at culvert inlet	30	W-05-111_P6040007
W-05-111	Looking at culvert outlet	180	W-05-111_P6040008
W-05-112	Looking upstream from bridge crossing	120	W-05-112_P6040009
W-05-112	Looking downstream from bridge crossing	300	W-05-112_P6040010
W-05-112	Photo of male sucker, fork length - 178mm	N/A	W-05-112_P6040011
W-05-112	Photo of Black Bullhead, fork length- 191mm	N/A	W-05-112_P6040012
W-05-112	Photo of female sucker, fork length- 190mm	N/A	W-05-112_P6040013
W-05-112	Photo of Northern Pike, fork length- 406mm	N/A	W-05-112_P6040014
W-05-113	Looking upstream from culvert crossing	270	W-05-113_P6060001
W-05-113	Looking downstream from culvert crossing	90	W-05-113_P6060002
W-05-113	Looking at culvert inlet	140	W-05-113_P6060004
W-05-113	Looking at culvert outlet	220	W-05-113_P6060005
W-05-114	Looking upstream from culvert crossing	80	W-05-114_P6060006
W-05-114	Looking downstream from culvert crossing	270	W-05-114_P6060007
W-05-114	Looking at culvert inlet	270	W-05-114_P6060008

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-114	Looking at culvert outlet	80	W-05-114_P6060009
W-05-115	Looking upstream from culvert crossing	320	W-05-115_P6070010
W-05-115	Looking downstream from culvert crossing	150	W-05-115_P6070011
W-05-115	Looking at culvert inlet	150	W-05-115_P6070012
W-05-115	Looking at culvert outlet	310	W-05-115_P6070013
W-05-116	Looking upstream from culvert crossing	90	W-05-116_P6070014
W-05-116	Looking downstream from culvert crossing	270	W-05-116_P6070015
W-05-116	Looking at culvert inlet	270	W-05-116_P6070016
W-05-116	Looking at culvert outlet	90	W-05-116_P6070017
W-05-117	Looking upstream from culvert crossing	270	W-05-117_P6070018
W-05-117	Looking downstream from culvert crossing	90	W-05-117_P6070019
W-05-117	Looking at culvert inlet	90	W-05-117_P6070020
W-05-117	Looking at culvert outlet	270	W-05-117_P6070021
W-05-117	Photo of bank scour	300	W-05-117_P6070022
W-05-117	Photo of bank scour	30	W-05-117_P6070023
W-05-118	Looking upstream from culvert crossing	10	W-05-118_P6080001
W-05-118	Looking downstream from culvert crossing	200	W-05-118_P6080002
W-05-118	Looking at culvert inlet	160	W-05-118_P6080003
W-05-118	Looking at culvert outlet	350	W-05-118_P6080004
W-05-119	Looking upstream from culvert crossing	180	W-05-119_P6080005
W-05-119	Looking downstream from culvert crossing	0	W-05-119_P6080006
W-05-119	Looking at culvert inlet	0	W-05-119_P6080007
W-05-119	Looking at culvert outlet	180	W-05-119_P6080008
W-05-120	Looking upstream from culvert crossing	320	W-05-120_P6090001
W-05-120	Looking upstream of additional drain	180	W-05-120_P6090002
W-05-120	Looking at culvert inlet	90	W-05-120_P6090003
W-05-120	Looking downstream from culvert crossing	90	W-05-120_P6090004
W-05-120	Looking at culvert outlet	270	W-05-120_P6090005
W-05-121	Looking upstream from culvert crossing	320	W-05-121_P6090006
W-05-121	Looking downstream from culvert crossing	150	W-05-121_P6090007
W-05-121	Looking at culvert inlet	150	W-05-121_P6090008
W-05-121	Looking at culvert outlet	320	W-05-121_P6090009
W-05-122	Looking upstream from bridge crossing	0	W-05-122_P6090010

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-05-122	Looking downstream from bridge crossing	180	W-05-122_P6090011
W-05-123	Looking upstream of road crossing	N/A	W-05-123_P6140001
W-05-123	Looking downstream stream of road crossing	N/A	W-05-123_P6140002
W-05-123	Photo of dead beaver (zoomed in)	N/A	W-05-123_P6140003
W-05-124	Photo of water flowing over road	0	W-05-124_P6140004
W-05-124	Looking upstream of road crossing	270	W-05-124_P6140005
W-05-124	Looking upstream of road crossing	90	W-05-124_P6140006
W-05-125	Photo of water going over the drain	90	W-05-125_P6140007
W-05-126	Looking upstream from culvert crossing	0	W-05-126_P6140008
W-05-126	Looking downstream from culvert crossing	180	W-05-126_P6140009
W-05-126	Looking at culvert inlet	180	W-05-126_P6140010
W-05-126	Looking at culvert outlet	0	W-05-126_P6140011
W-05-127	Looking upstream from culvert crossing	90	W-05-127_P6140012
W-05-127	Looking upstream from culvert crossing	340	W-05-127_P6140013
W-05-127	Looking downstream from culvert crossing	300	W-05-127_P6140014
W-05-127	Looking at culvert inlet	280	W-05-127_P6140015
W-05-127	Looking at culvert outlet	70	W-05-127_P6140016
W-05-128	Looking upstream from culvert crossing	160	W-05-128_P6140017
W-05-128	Looking downstream from culvert crossing	300	W-05-128_P6140018
W-05-128	Looking at culvert inlet	320	W-05-128_P6140019
W-05-128	Looking at culvert outlet	130	W-05-128_P6140020
W-05-129	Looking upstream from culvert crossing	270	W-05-129_P6150001
W-05-129	Looking downstream from culvert crossing	90	W-05-129_P6150002
W-05-129	Looking at culvert inlet	260	W-05-129_P6150003
W-05-129	Looking at culvert outlet	60	W-05-129_P6150004
W-05-129	Photo of 700mm Common Carp	N/A	W-05-129_P6150007
W-05-129	Photo of 700mm Common Carp	N/A	W-05-129_P6150008
W-05-130	Looking upstream from culvert crossing	0	W-05-130_P6150009
W-05-130	Looking downstream from culvert crossing	180	W-05-130_P6150010
W-05-130	Looking at culvert inlet	160	W-05-130_P6150011
W-05-130	Looking at culvert outlet	340	W-05-130_P6150012
W-05-131	Looking upstream from culvert crossing	0	W-05-131_P6150013
W-05-131	Looking at tributary to Sylvan Drain	270	W-05-131_P6150014

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-131	Looking at tributary to Sylvan Drain	270	W-05-131_P6150015
W-05-131	Looking downstream from Sylvan Drain culvert crossing	180	W-05-131_P6150016
W-05-131	Looking at culvert inlet	180	W-05-131_P6150017
W-05-131	Looking at culvert outlet	0	W-05-131_P6150018
W-05-132	Looking upstream from culvert crossing	270	W-05-132_P6150019
W-05-132	Looking downstream from culvert crossing	90	W-05-132_P6150020
W-05-132	Looking at culvert inlet	70	W-05-132_P6150021
W-05-132	Looking at culvert outlet	290	W-05-132_P6150022
W-05-133	Looking upstream from right bank dike (20 m from road)	180	W-05-133_P6150023
W-05-133	Looking downstream from right bank dike (20 m from road)	90	W-05-133_P6150024
W-05-133	Looking at flooded field from right bank dike	230	W-05-133_P6150025
W-05-133	Looking upstream 1st order tributary (Shurkas Drain)	0	W-05-133_P6150026
W-05-133	Photo of squirrel on road	N/A	W-05-133_P6150027
W-05-133	Looking at flooded field from right bank dike	180	W-05-133_P6150028
W-05-134	Looking upstream from right bank	180	W-05-134_P6150031
W-05-134	Looking downstream from right bank	0	W-05-134_P6150032
W-05-135	Looking upstream from culvert crossing	220	W-05-135_P6160001
W-05-135	Looking upstream from culvert crossing	160	W-05-135_P6160002
W-05-135	Looking upstream from culvert crossing	100	W-05-135_P6160003
W-05-135	Looking downstream from culvert crossing	320	W-05-135_P6160004
W-05-135	Looking downstream from culvert crossing	350	W-05-135_P6160005
W-05-135	Looking downstream from culvert crossing	20	W-05-135_P6160006
W-05-136	Looking upstream from culvert crossing	200	W-05-136_P6160007
W-05-136	Looking downstream from culvert crossing	0	W-05-136_P6160008
W-05-136	Looking at culvert inlet	20	W-05-136_P6160009
W-05-136	Looking at culvert outlet	180	W-05-136_P6160010
W-05-137	Looking upstream from culvert crossing	180	W-05-137_P6160011
W-05-137	Looking downstream from culvert crossing	0	W-05-137_P6160012
W-05-137	Looking at culvert inlet	0	W-05-137_P6160013
W-05-137	Looking at culvert outlet	180	W-05-137_P6160014
W-05-138	Looking upstream from culvert crossing	180	W-05-138_P6160015
W-05-138	Looking downstream from culvert crossing	0	W-05-138_P6160016
W-05-138	Looking at culvert inlet	0	W-05-138_P6160017

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-05-138	Looking at culvert outlet	180	W-05-138_P6160018
W-05-139	Looking upstream from culvert crossing	180	W-05-139_P6170001
W-05-139	Looking downstream from culvert crossing	0	W-05-139_P6170002
W-05-139	Looking at culvert inlet	20	W-05-139_P6170003
W-05-139	Looking at culvert outlet	200	W-05-139_P6170004
W-05-140	Looking upstream from culvert crossing	180	W-05-140_P6170005
W-05-140	Looking downstream from culvert crossing	0	W-05-140_P6170006
W-05-140	Looking at culvert inlet	40	W-05-140_P6170007
W-05-140	Looking at culvert outlet	230	W-05-140_P6170008
W-05-142	Looking upstream from culvert crossing	180	W-05-142_P6200009
W-05-142	Looking downstream from culvert crossing	0	W-05-142_P6200010
W-05-142	Looking at culvert inlet	0	W-05-142_P6200011
W-05-142	Looking at culvert outlet	180	W-05-142_P6200012
W-05-143	Looking upstream from culvert crossing	180	W-05-143_P6200013
W-05-143	Looking downstream from culvert crossing	0	W-05-143_P6200014
W-05-144	Looking upstream from culvert crossing	0	W-05-144_P6200015
W-05-144	Looking downstream from culvert crossing	180	W-05-144_P6200016
W-05-144	Looking at culvert inlet	200	W-05-144_P6200017
W-05-144	Looking at culvert outlet	340	W-05-144_P6200018
W-05-145	Looking upstream from culvert crossing	270	W-05-145_P6200019
W-05-145	Looking downstream from culvert crossing	90	W-05-145_P6200020
W-05-145	Looking at culvert inlet	115	W-05-145_P6200021
W-05-145	Looking at culvert outlet	300	W-05-145_P6200022
W-05-145	Looking at vertical culvert	350	W-05-145_P6200023
W-05-146	Looking upstream from culvert crossing	270	W-05-146_P6210001
W-05-146	Looking downstream from culvert crossing	90	W-05-146_P6210002
W-05-146	Looking at culvert inlet	70	W-05-146_P6210003
W-05-146	Looking at pool	35	W-05-146_P6210004
W-05-146	Looking at culvert outlet	270	W-05-146_P6210005
W-05-147	Photo of bison from road	270	W-05-147_P6210006
W-05-147	Photo of bison from road	270	W-05-147_P6210007
W-05-147	Looking upstream from culvert crossing	300	W-05-147_P6210008
W-05-147	Looking downstream from culvert crossing	120	W-05-147_P6210009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-147	Looking at culvert outlet	270	W-05-147_P6210010
W-05-147	Looking at culvert outlet	30	W-05-147_P6210011
W-05-147	Photo of bison from road	270	W-05-147_P6210012
W-05-148	Looking upstream from bridge crossing	310	W-05-148_P6210013
W-05-148	Looking downstream from bridge crossing	120	W-05-148_P6210014
W-05-149	Looking upstream from culvert crossing	155	W-05-149_P6220001
W-05-149	Looking downstream from culvert crossing	10	W-05-149_P6220002
W-05-149	Looking downstream from culvert crossing	80	W-05-149_P6220003
W-05-149	Looking at culvert inlet	50	W-05-149_P6220004
W-05-149	Looking at culvert outlet	320	W-05-149_P6220005
W-05-149	Looking at bank scour/ slump right bank downstream from culverts	0	W-05-149_P6220006
W-05-149	Looking at bank scour/ slump right bank downstream from culverts	80	W-05-149_P6220007
W-05-149	Looking at bank scour/ slump left bank downstream 20m from culverts	30	W-05-149_P6220008
W-05-150	Looking upstream from culvert crossing	270	W-05-150_P6220009
W-05-150	Looking downstream from culvert crossing	90	W-05-150_P6220010
W-05-150	Looking at culvert inlet	90	W-05-150_P6220011
W-05-150	Looking at culvert outlet	270	W-05-150_P6220012
W-05-150	Photo of Burbot	N/A	W-05-150_P6220013
W-05-150	Photo of Burbot	N/A	W-05-150_P6220014
W-05-151	Looking upstream from culvert crossing	270	W-05-151_P6220015
W-05-151	Looking downstream from culvert crossing	90	W-05-151_P6220016
W-05-151	Looking at culvert inlet	90	W-05-151_P6220017
W-05-152	Looking upstream from ford crossing	270	W-05-152_P6220018
W-05-152	Looking downstream from ford crossing	90	W-05-152_P6220019
W-05-152	Looking at ford crossing	0	W-05-152_P6220020
W-05-152	Photo of cattle impacts	N/A	W-05-152_P6220021
W-05-153	Looking upstream from culvert crossing	220	W-05-153_P6220022
W-05-153	Looking downstream from culvert crossing	20	W-05-153_P6220023
W-05-154	Looking upstream from bridge crossing	270	W-05-154_P6220024
W-05-154	Looking downstream from bridge crossing	90	W-05-154_P6220025
W-05-168	Looking upstream from PR 470 crossing	40	W-05-168_P7110001
W-05-168	Looking downstream from PR 470 crossing	240	W-05-168_P7110002
W-05-169	Looking upstream from culvert crossing	180	W-05-169_P7120001

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-169	Looking downstream from culvert crossing	0	W-05-169_P7120002
W-05-169	Looking at culvert inlet	200	W-05-169_P7120003
W-05-169	Looking at culvert inlet	N/A	W-05-169_P7120004
W-05-169	Looking at culvert outlet	180	W-05-169_P7120005
W-05-170	Looking upstream from culvert crossing	340	W-05-170_P7120007
W-05-170	Looking downstream from culvert crossing	170	W-05-170_P7120008
W-05-170	Looking at culvert inlet	180	W-05-170_P7120009
W-05-170	Looking at culvert outlet	300	W-05-170_P7120010
W-05-171	Looking upstream from culvert crossing	0	W-05-171_P7120011
W-05-171	Looking downstream from culvert crossing	180	W-05-171_P7120012
W-05-171	Looking at culvert inlet	120	W-05-171_P7120013
W-05-171	Looking at culvert outlet	240	W-05-171_P7120014
W-05-172	Looking upstream bridge crossing	360	W-05-172_P7120015
W-05-172	Looking downstream bridge crossing	180	W-05-172_P7120016
W-05-174	Looking upstream at weir	300	W-05-174_P7180001
W-05-174	Looking downstream at weir	100	W-05-174_P7180002
W-05-174	Looking at riffle further upstream	300	W-05-174_P7180003
W-05-174	Looking at 2nd weir further upstream	300	W-05-174_P7180004
W-05-175	Photo of guys canoeing down Boundary Drain	N/A	W-05-175_P7180005
W-05-175	Photo of guys canoeing down Boundary Drain	N/A	W-05-175_P7180006
W-05-175	Looking upstream Boundary Drain	310	W-05-175_P7180007
W-05-175	Looking upstream at 2nd order tributary just north of Dola crossing	40	W-05-175_P7180008
W-05-175	Looking downstream Boundary Drain	170	W-05-175_P7180009
W-05-175	Looking at flooded field southwest of road junction	170	W-05-175_P7180010
W-05-176	Looking upstream from edge of left bank	270	W-05-176_P7180011
W-05-176	Looking downstream from edge of left bank	90	W-05-176_P7180012
W-05-177	Looking upstream from culvert crossing	270	W-05-177_P7190001
W-05-177	Looking downstream from culvert crossing	90	W-05-177_P7190002
W-05-177	Looking at culvert inlet	90	W-05-177_P7190003
W-05-177	Looking at culvert outlet	270	W-05-177_P7190004
W-05-178	Looking upstream from culvert crossing	270	W-05-178_P7190005
W-05-178	Looking downstream from culvert crossing	90	W-05-178_P7190006
W-05-178	Looking at culvert inlet	75	W-05-178_P7190007

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-05-178	Looking at culvert inlet	75	W-05-178_P7190008
W-05-178	Looking at culvert outlet	300	W-05-178_P7190009
W-05-178	Looking at culvert outlet of south tributary to Meleb Drain	270	W-05-178_P7190010
W-05-179	Looking upstream from culvert crossing	270	W-05-179_P7190011
W-05-179	Looking downstream from culvert crossing	90	W-05-179_P7190012
W-05-180	Looking downstream from culvert crossing	150	W-05-180_P7190013
W-05-180	Looking at culvert inlet	190	W-05-180_P7190014
W-05-180	Looking at culvert outlet	20	W-05-180_P7190015
W-05-181	Looking upstream from culvert crossing	270	W-05-181_P7190016
W-05-181	Looking downstream from culvert crossing	90	W-05-181_P7190017
W-05-181	Looking at culvert inlet	80	W-05-181_P7190018
W-05-181	Looking at culvert outlet	280	W-05-181_P7190019
W-05-182	Looking upstream from left bank	270	W-05-182_P7190020
W-05-182	Looking downstream from left bank	90	W-05-182_P7190021
W-05-183	Looking upstream from culvert crossing	270	W-05-183_P7190022
W-05-183	Looking downstream from culvert crossing	90	W-05-183_P7190023
W-05-183	Looking at culvert inlet	90	W-05-183_P7190024
W-05-183	Looking at culvert outlet	270	W-05-183_P7190025
W-05-184	Looking upstream from culvert crossing	340	W-05-184_P7200001
W-05-184	Looking downstream from culvert crossing	160	W-05-184_P7200002
W-05-185	Looking upstream from culvert crossing	270	W-05-185_P7200003
W-05-185	Looking downstream from culvert crossing	90	W-05-185_P7200004
W-05-185	Looking at culvert inlet	90	W-05-185_P7200005
W-05-185	Looking at culvert outlet	270	W-05-185_P7200006
W-05-186	Looking upstream from left bank	360	W-05-186_P7250001
W-05-186	Looking downstream from left bank	180	W-05-186_P7250002
W-05-187	Looking upstream of road crossing	20	W-05-187_P7250003
W-05-187	Looking downstream stream of road crossing	200	W-05-187_P7250004
W-05-187	Looking at flooded road	90	W-05-187_P7250005
W-05-188	Looking upstream from right bank at washed out culvert crossing	90	W-05-188_P7250006
W-05-188	Looking downstream from right bank at washed out culvert crossing	270	W-05-188_P7250007
W-05-188	Looking upstream of culvert crossing looking at tributary through field	50	W-05-188_P7250008
W-05-188	Looking downstream of culvert crossing looking at drain	360	W-05-188_P7250009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-188	Looking at washed out culvert from upstream	280	W-05-188_P7250010
W-05-189	Looking upstream from culvert crossing	90	W-05-189_P7260001
W-05-189	Looking downstream from culvert crossing	270	W-05-189_P7260002
W-05-189	Looking at culvert inlet	225	W-05-189_P7260003
W-05-189	Looking at culvert outlet	150	W-05-189_P7260004
W-05-189	Photo of Northern Pike (fork length = 145mm)	N/A	W-05-189_P7260005
W-05-189	Photo of young of the year suckers	N/A	W-05-189_P7260006
W-05-190	Looking upstream bridge crossing (3rd order)	90	W-05-190_P7260007
W-05-190	Looking downstream bridge crossing (3rd order)	270	W-05-190_P7260008
W-05-190	Looking upstream on 2nd order (north) tributary	360	W-05-190_P7260009
W-05-190	Looking at culvert inlet of 2nd order tributary	240	W-05-190_P7260010
W-05-190	Looking at culvert outlet of 2nd order tributary	360	W-05-190_P7260011
W-05-190	Looking upstream on other 3rd order tributary (south)	180	W-05-190_P7260012
W-05-191	Photo of Ashley P with garter snake	N/A	W-05-191_P7260013
W-05-191	Looking upstream bridge crossing at T-Drain	90	W-05-191_P7260014
W-05-191	Looking upstream at 3rd order tributary	0	W-05-191_P7260015
W-05-191	Looking downstream bridge crossing at T-Drain	270	W-05-191_P7260016
W-05-192	Looking upstream from culvert crossing	90	W-05-192_P7260017
W-05-192	Looking downstream from culvert crossing	270	W-05-192_P7260018
W-05-192	Looking at culvert inlet	200	W-05-192_P7260019
W-05-192	Looking at culvert outlet	180	W-05-192_P7260020
W-05-193	Looking upstream from culvert crossing	90	W-05-193_P7260021
W-05-193	Looking downstream from culvert crossing	270	W-05-193_P7260022
W-05-193	Looking at culvert inlet	220	W-05-193_P7260023
W-05-193	Looking at culvert outlet	145	W-05-193_P7260024
W-05-194	Looking upstream from culvert crossing	90	W-05-194_P7270001
W-05-194	Looking downstream from culvert crossing	270	W-05-194_P7270002
W-05-194	Looking at culvert inlet	345	W-05-194_P7270003
W-05-194	Looking at culvert outlet	105	W-05-194_P7270004
W-05-194	Photo of Burbot	N/A	W-05-194_P7270005
W-05-194	Photo of Burbot	N/A	W-05-194_P7270006
W-05-194	Photo of Burbot	N/A	W-05-194_P7270007
W-05-195	Looking upstream from culvert crossing	180	W-05-195_P7270008

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-195	Looking downstream from culvert crossing	270	W-05-195_P7270009
W-05-195	Looking at culvert inlet	200	W-05-195_P7270010
W-05-195	Looking at culvert outlet	150	W-05-195_P7270011
W-05-196	Looking upstream from culvert crossing	90	W-05-196_P7270012
W-05-196	Looking downstream from culvert crossing	270	W-05-196_P7270013
W-05-196	Looking at culvert inlet	205	W-05-196_P7270014
W-05-196	Looking at culvert outlet	110	W-05-196_P7270015
W-05-196	Looking upstream at Bachman East Drain	180	W-05-196_P7270016
W-05-196	Looking downstream at Bachman East Drain	360	W-05-196_P7270017
W-05-196	Looking at culvert inlets of Bachman East Drain	45	W-05-196_P7270018
W-05-196	Looking at culvert outlets of Bachman East Drain	180	W-05-196_P7270019
W-05-197	Looking upstream at waterfall from left bank	220	W-05-197_P7270023
W-05-197	Looking downstream from left bank	340	W-05-197_P7270024
W-05-198	Looking upstream from culvert crossing	270	W-05-198_P7280001
W-05-198	Looking downstream from culvert crossing	90	W-05-198_P7280002
W-05-198	Looking at culvert inlet	115	W-05-198_P7280003
W-05-198	Looking at culvert outlet	240	W-05-198_P7280004
W-05-198	Looking upstream at cleaned out tributary	180	W-05-198_P7280005
W-05-199	Looking upstream from culvert crossing	315	W-05-199_P8020001
W-05-199	Looking downstream from culvert crossing	150	W-05-199_P8020002
W-05-199	Looking at culvert inlet	180	W-05-199_P8020003
W-05-199	Looking at culvert outlet	280	W-05-199_P8020004
W-05-200	Looking upstream from right bank	300	W-05-200_P8020005
W-05-200	Looking downstream from right bank	120	W-05-200_P8020006
W-05-201	Looking upstream from 1st culvert crossing at northwest tributary	315	W-05-201_P8020007
W-05-201	Looking downstream from 1st culvert crossing at west tributary	270	W-05-201_P8020008
W-05-201	Looking upstream from 2nd culvert crossing	350	W-05-201_P8020009
W-05-201	Looking at culvert inlet west tributary	90	W-05-201_P8020010
W-05-201	Looking at culvert inlet to northwest tributary	115	W-05-201_P8020011
W-05-201	Looking at culvert inlet 2nd culvert crossing	140	W-05-201_P8020012
W-05-201	Looking downstream 2nd culvert crossing	270	W-05-201_P8020013
W-05-202	Looking at culvert outlet 2nd culvert crossing	0	W-05-202_P8020014
W-05-202	Looking upstream from culvert crossing	350	W-05-202_P8020015

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-202	Looking downstream from culvert crossing	165	W-05-202_P8020016
W-05-202	Looking at culvert inlet	220	W-05-202_P8020017
W-05-202	Looking at culvert outlet	350	W-05-202_P8020018
W-05-203	Looking upstream bridge crossing	210	W-05-203_P8030001
W-05-203	Looking upstream bridge crossing	160	W-05-203_P8030002
W-05-203	Looking downstream bridge crossing	80	W-05-203_P8030003
W-05-204	Looking upstream from culvert crossing	0	W-05-204_P8030004
W-05-204	Looking downstream from culvert crossing	180	W-05-204_P8030005
W-05-204	Looking at culvert inlet	220	W-05-204_P8030006
W-05-204	Looking at culvert outlet	100	W-05-204_P8030007
W-05-204	Photo of cattle impacts upstream of culvert crossing	20	W-05-204_P8030008
W-05-204	Photo of cattle impacts upstream of culvert crossing	10	W-05-204_P8030009
W-05-204	Photo of cattle impacts downstream of culvert crossing	200	W-05-204_P8030010
W-05-204	Photo of cattle impacts downstream of culvert crossing	250	W-05-204_P8030011
W-05-205	Looking upstream from culvert crossing	250	W-05-205_P8030012
W-05-205	Looking downstream from culvert crossing	75	W-05-205_P8030013
W-05-205	Looking at culvert inlet 1	170	W-05-205_P8030014
W-05-205	Looking at culvert inlet 2	140	W-05-205_P8030015
W-05-205	Looking at culvert outlet 1	220	W-05-205_P8030016
W-05-206	Looking upstream from culvert crossing	90	W-05-206_P8030017
W-05-206	Looking downstream from culvert crossing	270	W-05-206_P8030018
W-05-206	Looking at culvert inlet	250	W-05-206_P8030019
W-05-206	Looking at culvert outlet	110	W-05-206_P8030020
W-05-207	Looking upstream bridge crossing	45	W-05-207_P8080001
W-05-207	Looking downstream bridge crossing	225	W-05-207_P8080002
W-05-207	Photo of YOY bullheads immediately upstream of bridge crossing.	N/A	W-05-207_P8080003
W-05-207	Looking upstream at bank erosion	85	W-05-207_P8080004
W-05-207	Looking upstream at bank erosion	45	W-05-207_P8080005
W-05-208	Looking upstream from quad / walking bridge	270	W-05-208_P8100001
W-05-208	Looking downstream from quad / walking bridge	45	W-05-208_P8100002
W-05-208	Photo of Matt & Jaime	N/A	W-05-208_P8100003
W-05-209	Looking upstream from culvert crossing	250	W-05-209_P8100004
W-05-209	Looking downstream from culvert crossing	10	W-05-209_P8100005

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-05-209	Looking at culvert inlet	160	W-05-209_P8100006
W-05-209	Looking at culvert outlet	100	W-05-209_P8100007
W-05-210	Looking upstream from culvert crossing	270	W-05-210_P5190018
W-05-210	Looking downstream from culvert crossing	90	W-05-210_P5190019
W-05-210	Looking at culvert inlet	0	W-05-210_P5190020
W-05-210	Looking at culvert outlet	180	W-05-210_P5190021
W-05-211	Photo of moose	N/A	W-05-211_P5310001
W-05-211	Photo of moose	N/A	W-05-211_P5310002
W-05-211	Photo of moose	N/A	W-05-211_P5310003
W-05-211	Looking upstream from culvert crossing	210	W-05-211_P5310004
W-05-211	Looking downstream from culvert crossing	0	W-05-211_P5310005
W-05-211	Looking at culvert inlet	180	W-05-211_P5310006
W-05-211	Looking at culvert outlet	210	W-05-211_P5310007
X-05-001	Looking upstream from bridge crossing	150	X-05-001_P4270001
X-05-001	Looking downstream from bridge crossing	65	X-05-001_P4270002
X-05-002	Looking upstream from culvert crossing	90	X-05-002_P4270003
X-05-002	Looking upstream from culvert crossing	30	X-05-002_P4270004
X-05-002	Looking downstream from south culvert crossing	190	X-05-002_P4270005
X-05-002	Looking downstream from north culvert crossing	170	X-05-002_P4270006
X-05-002	Looking at outlet of north culvert	110	X-05-002_P4270007
X-05-002	Looking at outlet of south culvert	75	X-05-002_P4270008
X-05-002	Looking at inlet of south culvert	300	X-05-002_P4270009
X-05-002	Looking at inlet of north culvert	245	X-05-002_P4270010
X-05-003	Looking upstream from culvert crossing	260	X-05-003_P4290001
X-05-003	Looking downstream from culvert crossing	10	X-05-003_P4290002
X-05-003	Looking at culvert inlets	270	X-05-003_P4290003
X-05-003	Looking at culvert outlets	20	X-05-003_P4290004
X-05-004	Looking upstream from culvert crossing	180	X-05-004_P4290005
X-05-004	Looking downstream from culvert crossing	360	X-05-004_P4290006
X-05-004	Looking at culvert inlets	320	X-05-004_P4290007
X-05-004	Looking at culvert outlets	145	X-05-004_P4290008
X-05-005	Looking upstream at Barnland Drain	360	X-05-005_P4290009
X-05-005	Looking downstream at Barnland Drain	90	X-05-005_P4290010

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-005	Looking at outlet of culvert of 2nd order tributary	250	X-05-005_P4290011
X-05-005	Looking at culvert inlet of culvert of 2nd order tributary	145	X-05-005_P4290012
X-05-005	upstream at inflow from 2nd order tributary to Barnland Drain	270	X-05-005_P4290013
X-05-006	Looking upstream from bridge crossing	270	X-05-006_P4290014
X-05-006	Looking downstream from bridge crossing	90	X-05-006_P4290015
X-05-007	Looking upstream from culvert crossing	270	X-05-007_P4290016
X-05-007	Looking downstream from culvert crossing	90	X-05-007_P4290017
X-05-007	Looking at culvert outlets	225	X-05-007_P4290018
X-05-007	Looking at culvert inlets	100	X-05-007_P4290019
X-05-007	Looking at banked sloughing	N/A	X-05-007_P4290020
X-05-007	Looking at male White Sucker fork length = 480mm	N/A	X-05-007_P4290021
X-05-007	Looking at female White Sucker fork length = 440mm	N/A	X-05-007_P4290022
X-05-007	Looking at Ashley P. and Ashley W. with White Sucker	N/A	X-05-007_P4290023
X-05-007	Looking at female White Sucker fork length = 430mm	310	X-05-007_P4290024
X-05-008	Looking downstream from culvert crossing	310	X-05-008_P4290025
X-05-008	Looking upstream from culvert crossing	145	X-05-008_P4290026
X-05-008	Looking upstream at 2nd order tributary	170	X-05-008_P4290027
X-05-008	Looking at culvert outlets	130	X-05-008_P4290028
X-05-008	Looking at culvert inlets of 2nd order tributary	330	X-05-008_P4290029
X-05-008	Looking at culvert inlets	270	X-05-008_P4290030
X-05-009	Looking upstream from culvert crossing at Parker Drain	325	X-05-009_P4290031
X-05-009	Looking upstream at 2nd order tributary	270	X-05-009_P4290032
X-05-009	Looking downstream at Parker Drain	90	X-05-009_P4290033
X-05-010	Looking upstream from culvert crossing	320	X-05-010_P5030001
X-05-010	Looking downstream from culvert crossing	100	X-05-010_P5030002
X-05-010	Looking at culvert outlets	270	X-05-010_P5030003
X-05-010	Looking at culvert inlets	90	X-05-010_P5030004
X-05-011	Looking upstream from culvert crossing	270	X-05-011_P5030005
X-05-011	Looking downstream from culvert crossing	90	X-05-011_P5030006
X-05-011	Looking at culvert inlets	70	X-05-011_P5030007
X-05-011	Looking at culvert outlets	290	X-05-011_P5030008
X-05-011	Looking at ford crossing, 1 mile downstream of culvert crossing	150	X-05-011_P5030009
X-05-011	Looking at culvert inlet of ford crossing	120	X-05-011_P5030010

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-011	Looking at outlet of ford crossing	310	X-05-011_P5030011
X-05-011	Looking downstream from ford crossing	90	X-05-011_P5030012
X-05-012	Looking upstream from culvert crossing	305	X-05-012_P5030013
X-05-012	Looking downstream from culvert crossing	180	X-05-012_P5030014
X-05-012	Looking at culvert inlets	120	X-05-012_P5030015
X-05-012	Looking at culvert outlets	45	X-05-012_P5030016
X-05-013	Looking upstream from culvert crossing	270	X-05-013_P5030017
X-05-013	Looking downstream from culvert crossing	90	X-05-013_P5030018
X-05-013	Looking at culvert inlets	45	X-05-013_P5030019
X-05-013	Looking at culvert outlets	165	X-05-013_P5030020
X-05-014	Looking upstream from culvert crossing	205	X-05-014_P5030021
X-05-014	Looking downstream from culvert crossing	110	X-05-014_P5030022
X-05-014	Looking at culvert inlets	45	X-05-014_P5030023
X-05-014	Looking at silt deposition	65	X-05-014_P5030024
X-05-014	Looking at culvert outlets	315	X-05-014_P5030025
X-05-015	Looking upstream from culvert crossing	270	X-05-015_P5030026
X-05-015	Looking downstream from culvert crossing	90	X-05-015_P5030027
X-05-015	Looking at culvert inlets	80	X-05-015_P5030028
X-05-015	Looking at culvert outlets	260	X-05-015_P5030029
X-05-016	Looking upstream from culvert crossing	270	X-05-016_P5030030
X-05-016	Looking downstream from culvert crossing	90	X-05-016_P5030031
X-05-016	Looking at culvert inlets	100	X-05-016_P5030032
X-05-016	Looking at culvert outlets	250	X-05-016_P5030033
X-05-017	Looking upstream from culvert crossing	250	X-05-017_P5030034
X-05-017	Looking downstream from culvert crossing	80	X-05-017_P5030035
X-05-017	Looking at culvert outlets	45	X-05-017_P5030036
X-05-017	Looking at culvert inlets	60	X-05-017_P5030037
X-05-017	Looking upstream from newly constructed drain	280	X-05-017_P5030038
X-05-018	Looking upstream from culvert crossing	305	X-05-018_P5040001
X-05-018	Looking downstream from culvert crossing	150	X-05-018_P5040002
X-05-018	Looking at culvert inlets	210	X-05-018_P5040003
X-05-018	Looking at culvert outlets	190	X-05-018_P5040004
X-05-018	Photo of a White Sucker (fork length = 410mm)	N/A	X-05-018_P5040005

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-018	Photo of a White Sucker (fork length = 370mm)	N/A	X-05-018_P5040006
X-05-018	Photo of a White Sucker (fork length = 340mm)	N/A	X-05-018_P5040007
X-05-018	Photo of a White Sucker (fork length = 320mm)	N/A	X-05-018_P5040008
X-05-018	Photo of a White Sucker (fork length = 280mm)	N/A	X-05-018_P5040009
X-05-018	Photo of a White Sucker (fork length = 250mm)	N/A	X-05-018_P5040010
X-05-018	Photo of a White Sucker (fork length = 230mm)	N/A	X-05-018_P5040011
X-05-018	Photo of a White Sucker (fork length = 250mm)	N/A	X-05-018_P5040012
X-05-018	Photo of a White Sucker (fork length = 240mm)	N/A	X-05-018_P5040013
X-05-018	Photo of a White Sucker (fork length = 180mm)	N/A	X-05-018_P5040014
X-05-018	Photo of a White Sucker (fork length = 120mm)	N/A	X-05-018_P5040015
X-05-018	Photo of a White Sucker	N/A	X-05-018_P5040016
X-05-018	Photo of a Central Mudminnow (total length = 100mm)	N/A	X-05-018_P5040017
X-05-018	Looking upstream at riparian vegetation	N/A	X-05-018_P5040018
X-05-018	Looking downstream at riparian vegetation	N/A	X-05-018_P5040019
X-05-018	Looking downstream at riparian vegetation	N/A	X-05-018_P5040020
X-05-019	Looking upstream from bridge crossing	305	X-05-019_P5040021
X-05-019	Looking downstream from bridge crossing	100	X-05-019_P5040022
X-05-019	Looking upstream from right bank at sediment deposition	N/A	X-05-019_P5040023
X-05-019	Looking at sediment deposition under bridge from right bank	N/A	X-05-019_P5040024
X-05-019	Looking further upstream from bridge	270	X-05-019_P5040025
X-05-019	Looking at sediment deposition downstream of bridge	N/A	X-05-019_P5040026
X-05-019	Looking at sediment deposition downstream of bridge	N/A	X-05-019_P5040027
X-05-020	Looking upstream from culvert crossing	270	X-05-020_P5040028
X-05-020	Looking downstream from culvert crossing	90	X-05-020_P5040029
X-05-020	Looking at culvert inlets	45	X-05-020_P5040030
X-05-020	Looking at culvert outlets	165	X-05-020_P5040031
X-05-020	Looking upstream at very small riparian area	270	X-05-020_P5040032
X-05-021	Looking upstream from bridge crossing	65	X-05-021_P5040033
X-05-021	Looking downstream from bridge crossing	90	X-05-021_P5040034
X-05-021	Photo of Ashley Presenger with White Sucker	N/A	X-05-021_P5040035
X-05-021	Looking at White Sucker fork length = 380mm	N/A	X-05-021_P5040036
X-05-021	Looking downstream at potential barrier to fish passage	125	X-05-021_P5040037
X-05-021	Looking upstream at potential barrier to fish passage	270	X-05-021_P5040038

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-022	Looking upstream from culvert crossing	305	X-05-022_P5040039
X-05-022	Looking downstream from culvert crossing	110	X-05-022_P5040040
X-05-022	Looking at culvert inlets	90	X-05-022_P5040041
X-05-022	Looking at culvert outlets	330	X-05-022_P5040042
X-05-023	Looking upstream at riffle from right bank	220	X-05-023_P5040043
X-05-023	Looking downstream at riffle from left bank	30	X-05-023_P5040044
X-05-023	Looking at gradient control structure	180	X-05-023_P5040045
X-05-024	Looking upstream at constructed riffle from mid-reach	270	X-05-024_P5050001
X-05-024	Looking upstream at constructed riffle from top of riffle	270	X-05-024_P5050002
X-05-024	Looking downstream at constructed riffle from top of riffle	100	X-05-024_P5050003
X-05-024	Looking at layering of boulders in pool just downstream of riffle	N/A	X-05-024_P5050004
X-05-024	Looking downstream at erosion of banks	100	X-05-024_P5050005
X-05-024	Looking at sediment deposition and eroded banks downstream of riffle	N/A	X-05-024_P5050006
X-05-024	Looking at top of constructed riffle	240	X-05-024_P5050007
X-05-024	Looking at White Sucker released (fork length = 240mm)	N/A	X-05-024_P5050008
X-05-024	Looking at White Sucker released (fork length = 300mm)	N/A	X-05-024_P5050009
X-05-024	Looking downstream from top of reach	90	X-05-024_P5050010
X-05-025	Looking upstream from culvert crossing	180	X-05-025_P5050011
X-05-025	Looking downstream from culvert crossing	360	X-05-025_P5050012
X-05-025	Looking upstream at Bryson Drain	90	X-05-025_P5050013
X-05-025	Looking at gradient control structure	270	X-05-025_P5050014
X-05-025	Looking upstream at culvert outlets from gradient control structure	180	X-05-025_P5050015
X-05-025	Looking at culvert inlets	350	X-05-025_P5050016
X-05-025	Looking upstream at first order tributary	270	X-05-025_P5050017
X-05-026	Looking upstream from culvert crossing	295	X-05-026_P5050018
X-05-026	Looking downstream from culvert crossing	110	X-05-026_P5050019
X-05-026	Looking at culvert inlets	120	X-05-026_P5050020
X-05-026	Looking at culvert outlets	235	X-05-026_P5050021
X-05-026	Looking at path created by cattle	35	X-05-026_P5050022
X-05-027	Looking upstream from ford crossing	150	X-05-027_P5060001
X-05-027	Looking downstream from ford crossing	345	X-05-027_P5060002
X-05-027	Looking at ford crossing	90	X-05-027_P5060003
X-05-028	Looking upstream from culvert crossing	165	X-05-028_P5060004

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-028	Looking downstream from culvert crossing	350	X-05-028_P5060005
X-05-028	Looking at culvert inlets	360	X-05-028_P5060006
X-05-028	Looking at culvert outlets	120	X-05-028_P5060007
X-05-029	Looking upstream from bridge crossing	145	X-05-029_P5060008
X-05-029	Looking downstream at cattle in drain	180	X-05-029_P5060009
X-05-029	Looking downstream at cattle impacted banks	260	X-05-029_P5060010
X-05-030	Looking upstream from culvert crossing	90	X-05-030_P5100001
X-05-030	Looking downstream from culvert crossing	270	X-05-030_P5100002
X-05-030	Looking at culvert inlets	35	X-05-030_P5100003
X-05-030	Looking at culvert outlets	345	X-05-030_P5100004
X-05-031	Looking upstream from culvert crossing	150	X-05-031_P5100005
X-05-031	Looking downstream from culvert crossing	325	X-05-031_P5100006
X-05-031	Looking at culvert inlets	175	X-05-031_P5100007
X-05-031	Looking at culvert outlets	180	X-05-031_P5100008
X-05-032	Looking upstream from culvert crossing	180	X-05-032_P5110001
X-05-032	Looking downstream from culvert crossing	360	X-05-032_P5110002
X-05-032	Looking at culvert inlets	325	X-05-032_P5110003
X-05-032	Looking at culvert outlets	150	X-05-032_P5110004
X-05-033	Looking upstream from right bank	165	X-05-033_P5110005
X-05-033	Looking downstream from left bank	360	X-05-033_P5110006
X-05-034	Looking upstream from culvert crossing	165	X-05-034_P5110007
X-05-034	Looking downstream from culvert crossing	345	X-05-034_P5110008
X-05-034	Looking at culvert outlets	200	X-05-034_P5110009
X-05-034	Looking at culvert inlets	335	X-05-034_P5110010
X-05-035	Looking upstream from bridge crossing	100	X-05-035_P5110011
X-05-035	Looking downstream from bridge crossing	270	X-05-035_P5110012
X-05-036	Looking upstream from culvert crossing	90	X-05-036_P5110013
X-05-036	Looking downstream from culvert crossing	270	X-05-036_P5110014
X-05-036	Looking at culvert inlets	235	X-05-036_P5110015
X-05-036	Looking at culvert outlets	45	X-05-036_P5110016
X-05-036	Looking at dead suckers	N/A	X-05-036_P5110017
X-05-036	Looking at dead suckers	N/A	X-05-036_P5110018
X-05-036	Looking at dead suckers	N/A	X-05-036_P5110019

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-037	Looking upstream from culvert crossing	100	X-05-037_P5120001
X-05-037	Looking downstream from culvert crossing	330	X-05-037_P5120002
X-05-037	Looking at culvert inlets	315	X-05-037_P5120003
X-05-037	Looking at culvert outlets	90	X-05-037_P5120004
X-05-038	Looking upstream from the left bank (mid-reach)	180	X-05-038_P5120005
X-05-038	Looking downstream from the left bank (mid-reach)	215	X-05-038_P5120006
X-05-038	Photo of a White Sucker (fork length = 220mm)	N/A	X-05-038_P5120007
X-05-039	Looking upstream from culvert crossing	90	X-05-039_P5120008
X-05-039	Looking downstream from culvert crossing	270	X-05-039_P5120009
X-05-039	Looking at culvert inlets	245	X-05-039_P5120010
X-05-039	Looking at culvert outlets	150	X-05-039_P5120011
X-05-040	Looking upstream from mid-reach	165	X-05-040_P5120012
X-05-040	Looking downstream from mid-reach	30	X-05-040_P5120013
X-05-041	Looking upstream from culvert crossing	180	X-05-041_P5120014
X-05-041	Looking downstream from culvert crossing	360	X-05-041_P5120015
X-05-041	Looking at culvert inlets	305	X-05-041_P5120016
X-05-041	Looking at culvert outlets	215	X-05-041_P5120017
X-05-042	Looking upstream from culvert crossing	110	X-05-042_P5120018
X-05-042	Looking downstream from culvert crossing	345	X-05-042_P5120019
X-05-042	Looking at culvert inlets	320	X-05-042_P5120020
X-05-042	Looking at culvert outlets	250	X-05-042_P5120021
X-05-042	Photo of a White Sucker (fork length = 220mm)	N/A	X-05-042_P5120022
X-05-042	Photo of a Central Mudminnow (total length = 190mm)	N/A	X-05-042_P5120023
X-05-043	Looking upstream from culvert crossing	90	X-05-043_P5120024
X-05-043	Looking downstream from culvert crossing	280	X-05-043_P5120025
X-05-044	Looking upstream from culvert crossing	30	X-05-044_P5130001
X-05-044	Looking downstream from culvert crossing	295	X-05-044_P5130002
X-05-044	Looking at culvert inlets	345	X-05-044_P5130003
X-05-044	Looking at culvert outlets	210	X-05-044_P5130004
X-05-045	Looking upstream from bridge crossing	65	X-05-045_P5130005
X-05-045	Looking downstream from bridge crossing	200	X-05-045_P5130006
X-05-046	Looking upstream from culvert crossing	45	X-05-046_P51[illegible]0008
X-05-046	Looking downstream from culvert crossing	150	X-05-046_P5130009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-046	Looking at culvert outlets	100	X-05-046_P5130010
X-05-046	Looking at culvert inlets	180	X-05-046_P5130011
X-05-047	Looking upstream from bridge crossing	90	X-05-047_P5130012
X-05-047	Looking downstream from bridge crossing	180	X-05-047_P5130013
X-05-048	Looking upstream from cement box culvert	90	X-05-048_P5140001
X-05-048	Looking downstream from cement box culvert	180	X-05-048_P5140002
X-05-048	Photo of spawning Fathead Minnow	N/A	X-05-048_P5140003
X-05-048	Photo of spawning Fathead Minnow	N/A	X-05-048_P5140004
X-05-049	Looking upstream from culvert crossing	90	X-05-049_P5140005
X-05-049	Looking downstream from culvert crossing	270	X-05-049_P5140006
X-05-049	Looking at culvert outlets	100	X-05-049_P5140007
X-05-049	Looking at culvert inlets	240	X-05-049_P5140008
X-05-050	Looking upstream from culvert crossing	90	X-05-050_P5140009
X-05-050	Looking downstream from culvert crossing	270	X-05-050_P5140010
X-05-050	Looking at culvert outlets	100	X-05-050_P5140011
X-05-050	Looking at culvert inlets	240	X-05-050_P5140012
X-05-051	Looking upstream from ford crossing	270	X-05-051_P5140013
X-05-051	Looking downstream from ford crossing	110	X-05-051_P5140014
X-05-051	Looking at culvert inlets	65	X-05-051_P5140015
X-05-051	Looking at culvert outlets	25	X-05-051_P5140016
X-05-052	Looking upstream from bridge crossing	305	X-05-052_P5140017
X-05-052	Looking downstream from bridge crossing	100	X-05-052_P5140020
X-05-053	Looking upstream at inflow of Westbourne Drain	160	X-05-053_P5150001
X-05-053	Looking downstream at Westbourne Drain	360	X-05-053_P5150002
X-05-053	Looking upstream at Bagot Drain	280	X-05-053_P5150003
X-05-053	Looking at culvert outlets	330	X-05-053_P5150004
X-05-053	Looking at culvert outlets of Westbourne Drain	180	X-05-053_P5150005
X-05-054	Looking upstream from ford crossing	180	X-05-054_P5150006
X-05-054	Looking downstream from ford crossing	360	X-05-054_P5150007
X-05-055	Looking upstream from culvert crossing	235	X-05-055_P5150008
X-05-055	Looking downstream from culvert crossing	40	X-05-055_P5150009
X-05-055	Looking at culvert inlets	190	X-05-055_P5150010
X-05-055	Looking at culvert outlets	80	X-05-055_P5150011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-056	Looking upstream from culvert crossing	180	X-05-056_P5150012
X-05-056	Looking downstream from culvert crossing	15	X-05-056_P5150013
X-05-056	Looking at culvert inlets	90	X-05-056_P5150014
X-05-056	Looking at culvert outlets	90	X-05-056_P5150015
X-05-057	Looking upstream from culvert crossing	260	X-05-057_P5150016
X-05-057	Looking downstream from culvert crossing	80	X-05-057_P5150017
X-05-057	Looking at culvert outlets	270	X-05-057_P5150018
X-05-057	Looking at culvert inlets	90	X-05-057_P5150019
X-05-058	Looking upstream from bridge crossing	150	X-05-058_P5160001
X-05-058	Looking upstream from bridge crossing	90	X-05-058_P5160002
X-05-058	Looking upstream from bridge crossing	45	X-05-058_P5160003
X-05-058	Looking downstream from bridge crossing	270	X-05-058_P5160004
X-05-058	Looking downstream from bridge crossing	305	X-05-058_P5160005
X-05-059	Looking upstream from culvert crossing	45	X-05-059_P5160006
X-05-059	Looking downstream from culvert crossing	225	X-05-059_P5160007
X-05-059	Looking at culvert inlet	180	X-05-059_P5160008
X-05-059	Looking at culvert outlet	180	X-05-059_P5160009
X-05-060	Looking upstream from culvert crossing	245	X-05-060_P5160010
X-05-060	Looking upstream from culvert crossing	170	X-05-060_P5160011
X-05-060	Looking upstream from culvert crossing	75	X-05-060_P5160012
X-05-060	Looking downstream from culvert crossing	260	X-05-060_P5160013
X-05-060	Looking downstream from culvert crossing	35	X-05-060_P5160014
X-05-060	Looking at culvert inlet	80	X-05-060_P5160015
X-05-060	Looking at culvert outlet	80	X-05-060_P5160016
X-05-060	Looking at washed out road	80	X-05-060_P5160017
X-05-060	Looking at washed out road	80	X-05-060_P5160018
X-05-061	Looking upstream from culvert crossing	180	X-05-061_P5160019
X-05-061	Looking downstream from culvert crossing	10	X-05-061_P5160020
X-05-061	Looking at culvert inlet	65	X-05-061_P5160021
X-05-061	Looking at culvert outlet	115	X-05-061_P5160022
X-05-062	Looking upstream from culvert crossing	180	X-05-062_P5160023
X-05-062	Looking downstream from culvert crossing	345	X-05-062_P5160024
X-05-062	Looking at culvert outlet	210	X-05-062_P5160025

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-062	Looking at culvert inlet	100	X-05-062_P5160026
X-05-062	Looking at culvert inlet	N/A	X-05-062_P5160027
X-05-063	Looking upstream from culvert crossing	235	X-05-063_P5160028
X-05-063	Looking upstream from culvert crossing	150	X-05-063_P5160029
X-05-063	Looking downstream from culvert crossing	360	X-05-063_P5160030
X-05-063	Looking at culvert inlet	90	X-05-063_P5160031
X-05-063	Looking at culvert outlet	100	X-05-063_P5160032
X-05-064	Looking upstream from culvert crossing	270	X-05-064_P5160033
X-05-064	Looking downstream from culvert crossing	90	X-05-064_P5160034
X-05-064	Looking at culvert inlets	150	X-05-064_P5160035
X-05-064	Looking at culvert outlets	165	X-05-064_P5160036
X-05-065	Looking upstream from culvert crossing	180	X-05-065_P5160037
X-05-065	Looking upstream from culvert crossing	215	X-05-065_P5160038
X-05-065	Looking downstream from culvert crossing	45	X-05-065_P5160039
X-05-065	Looking at culvert outlet	280	X-05-065_P5160040
X-05-066	Looking upstream from culvert crossing	210	X-05-066_P5170001
X-05-066	Looking downstream from culvert crossing	360	X-05-066_P5170002
X-05-066	Looking at culvert inlets	45	X-05-066_P5170003
X-05-066	Looking at culvert outlets	150	X-05-066_P5170004
X-05-067	Looking upstream from culvert crossing	235	X-05-067_P5170005
X-05-067	Looking downstream from culvert crossing	45	X-05-067_P5170006
X-05-067	Looking at culvert inlets	45	X-05-067_P5170007
X-05-067	Looking at culvert outlets	215	X-05-067_P5170008
X-05-068	Looking upstream from culvert crossing	260	X-05-068_P5170009
X-05-068	Looking downstream from culvert crossing	90	X-05-068_P5170010
X-05-068	Looking at culvert outlets	225	X-05-068_P5170011
X-05-068	Looking at culvert inlets	100	X-05-068_P5170012
X-05-069	Looking upstream from bridge crossing	235	X-05-069_P5170013
X-05-069	Looking downstream from bridge crossing	115	X-05-069_P5170014
X-05-069	Looking at slumped banks	55	X-05-069_P5170015
X-05-070	Looking upstream from culvert crossing	165	X-05-070_P5180001
X-05-070	Looking downstream from culvert crossing	360	X-05-070_P5180002
X-05-070	Looking at culvert inlets	35	X-05-070_P5180003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-070	Looking at culvert outlets	125	X-05-070_P5180004
X-05-071	Looking upstream from culvert crossing	225	X-05-071_P5180005
X-05-071	Looking downstream from culvert crossing	90	X-05-071_P5180006
X-05-071	Looking at culvert inlets	225	X-05-071_P5180007
X-05-072	Looking upstream from culvert crossing	180	X-05-072_P5180008
X-05-072	Looking upstream at the 2nd order tributary	270	X-05-072_P5180009
X-05-072	Looking downstream from culvert crossing	360	X-05-072_P5180010
X-05-072	Looking at culvert inlets	235	X-05-072_P5180011
X-05-072	Looking at culvert outlets	150	X-05-072_P5180012
X-05-073	Looking upstream from culvert crossing	180	X-05-073_P5180013
X-05-073	Looking downstream from culvert crossing	335	X-05-073_P5180014
X-05-073	Looking at culvert inlet	320	X-05-073_P5180015
X-05-073	Looking at culvert outlet	245	X-05-073_P5180016
X-05-073	Looking down at inlet	N/A	X-05-073_P5180017
X-05-074	Looking upstream from cement box culvert	150	X-05-074_P5180018
X-05-074	Looking downstream from cement box culvert	305	X-05-074_P5180019
X-05-075	Looking upstream from culvert crossing	270	X-05-075_P5180020
X-05-075	Looking downstream from culvert crossing	90	X-05-075_P5180021
X-05-075	Looking upstream at 2nd order tributary	180	X-05-075_P5180022
X-05-075	Looking at culvert inlets	235	X-05-075_P5180023
X-05-075	Looking at culvert outlets	160	X-05-075_P5180024
X-05-076	Looking upstream at Rignold Drain from culvert crossing	180	X-05-076_P5180025
X-05-076	Looking downstream from culvert crossing	360	X-05-076_P5180026
X-05-076	Looking at culvert inlet of culvert from Rignold Drain	10	X-05-076_P5180027
X-05-076	Looking at culvert outlets	180	X-05-076_P5180028
X-05-076	Looking at inlets of culverts from the ditch	345	X-05-076_P5180029
X-05-076	Looking upstream at ditch	270	X-05-076_P5180030
X-05-076	Looking upstream at ditch	180	X-05-076_P5180031
X-05-077	Looking upstream from culvert crossing	210	X-05-077_P5180032
X-05-077	Looking downstream from culvert crossing	30	X-05-077_P5180033
X-05-077	Looking at culvert inlets	75	X-05-077_P5180034
X-05-077	Looking at culvert outlets	235	X-05-077_P5180035
X-05-077	Looking down at the dropped culvert	N/A	X-05-077_P5180036

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-078	Looking upstream from culvert crossing	20	X-05-078_P5190001
X-05-078	Looking downstream from culvert crossing	200	X-05-078_P5190002
X-05-078	Looking at culvert outlets	350	X-05-078_P5190003
X-05-078	Looking at culvert inlets	180	X-05-078_P5190004
X-05-079	Looking upstream from culvert crossing	285	X-05-079_P5190005
X-05-079	Looking downstream from culvert crossing	75	X-05-079_P5190006
X-05-079	Looking at culvert inlets	90	X-05-079_P5190007
X-05-079	Looking at culvert outlets	180	X-05-079_P5190008
X-05-080	Looking upstream from cement box culvert	90	X-05-080_P5190009
X-05-080	Looking downstream from cement box culvert	180	X-05-080_P5190010
X-05-081	Looking upstream from culvert crossing	180	X-05-081_P5190011
X-05-081	Looking downstream from culvert crossing	360	X-05-081_P5190012
X-05-081	Looking at culvert inlets	35	X-05-081_P5190013
X-05-081	Looking at culvert outlets	135	X-05-081_P5190014
X-05-082	Looking upstream from culvert crossing	270	X-05-082_P5190015
X-05-082	Looking downstream from culvert crossing	150	X-05-082_P5190016
X-05-082	Looking at culvert inlets	360	X-05-082_P5190017
X-05-082	Looking at culvert outlets	180	X-05-082_P5190018
X-05-083	Looking upstream from culvert crossing	245	X-05-083_P5190019
X-05-083	Looking downstream from culvert crossing	30	X-05-083_P5190020
X-05-083	Looking at culvert inlets	100	X-05-083_P5190021
X-05-083	Looking at culvert outlets	270	X-05-083_P5190022
X-05-084	Looking upstream from culvert crossing	270	X-05-084_P5200001
X-05-084	Looking downstream from culvert crossing	90	X-05-084_P5200002
X-05-084	Looking at culvert inlet	95	X-05-084_P5200003
X-05-084	Looking at culvert outlet	280	X-05-084_P5200004
X-05-085	Looking upstream from culvert crossing	270	X-05-085_P5200005
X-05-085	Looking downstream from culvert crossing	90	X-05-085_P5200006
X-05-085	Looking at culvert inlets	60	X-05-085_P5200007
X-05-085	Looking at culvert outlets	315	X-05-085_P5200008
X-05-086	Looking upstream from culvert crossing	345	X-05-086_P5200009
X-05-086	Looking downstream from culvert crossing	170	X-05-086_P5200010
X-05-086	Looking at culvert inlets	120	X-05-086_P5200011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-086	Looking at culvert outlets	305	X-05-086_P5200012
X-05-087	Looking upstream from culvert crossing	360	X-05-087_P5200013
X-05-087	Looking downstream from culvert crossing	180	X-05-087_P5200014
X-05-087	Looking at culvert inlet	150	X-05-087_P5200015
X-05-087	Looking at culvert outlet	30	X-05-087_P5200016
X-05-088	Looking upstream from bridge crossing	180	X-05-088_P5240001
X-05-088	Looking downstream from bridge crossing	360	X-05-088_P5240002
X-05-088	Looking under bridge from right bank	160	X-05-088_P5240003
X-05-089	Looking upstream from culvert crossing	150	X-05-089_P5250001
X-05-089	Looking downstream from culvert crossing	345	X-05-089_P5250002
X-05-089	Looking at culvert inlets	350	X-05-089_P5250003
X-05-089	Looking at culvert outlets	90	X-05-089_P5250004
X-05-090	Looking upstream from culvert crossing	90	X-05-090_P5250005
X-05-090	Looking downstream from culvert crossing	270	X-05-090_P5250006
X-05-090	Looking at culvert inlets	305	X-05-090_P5250007
X-05-090	Looking at culvert outlets	360	X-05-090_P5250008
X-05-091	Looking upstream from left culvert crossing	360	X-05-091_P5250009
X-05-091	Looking upstream from right culvert crossing	360	X-05-091_P5250010
X-05-091	Looking downstream from left culvert crossing	180	X-05-091_P5250011
X-05-091	Looking downstream from right culvert crossing	180	X-05-091_P5250012
X-05-091	Looking at left culvert inlet	115	X-05-091_P5250013
X-05-091	Looking down at right culvert inlet	N/A	X-05-091_P5250014
X-05-091	Looking at left culvert outlet	315	X-05-091_P5250015
X-05-091	Looking at right culvert outlet	90	X-05-091_P5250016
X-05-092	Looking upstream from culvert crossing	80	X-05-092_P5250017
X-05-092	Looking downstream from culvert crossing	130	X-05-092_P5250018
X-05-092	Looking at culvert outlets from 15 m north of the culverts	180	X-05-092_P5250019
X-05-092	Looking at culvert inlets	180	X-05-092_P5250020
X-05-092	Looking at culvert outlets	180	X-05-092_P5250021
X-05-093	Looking upstream from culvert crossing	270	X-05-093_P5270001
X-05-093	Looking downstream from culvert crossing	90	X-05-093_P5270002
X-05-093	Looking at culvert inlets	325	X-05-093_P5270003
X-05-093	Looking at culvert outlets	235	X-05-093_P5270004

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-094	Looking upstream from bridge crossing	270	X-05-094_P5270005
X-05-094	Looking downstream from bridge crossing	180	X-05-094_P5270006
X-05-095	Looking upstream from culvert crossing	325	X-05-095_P5300001
X-05-095	Looking downstream from culvert crossing	140	X-05-095_P5300002
X-05-095	Looking at culvert inlets	130	X-05-095_P5300003
X-05-095	Looking at culvert outlets	280	X-05-095_P5300004
X-05-096	Looking upstream from bridge crossing	270	X-05-096_P5300005
X-05-096	Looking downstream from bridge crossing	90	X-05-096_P5300006
X-05-097	Looking upstream from bridge crossing	270	X-05-097_P5300007
X-05-097	Looking downstream from bridge crossing	90	X-05-097_P5300008
X-05-098	Looking upstream from bridge crossing	270	X-05-098_P5300009
X-05-098	Looking downstream from bridge crossing	145	X-05-098_P5300010
X-05-099	Looking upstream from culvert crossing	250	X-05-099_P5300011
X-05-099	Looking downstream from culvert crossing	70	X-05-099_P5300012
X-05-099	Looking at culvert inlets	100	X-05-099_P5300013
X-05-099	Looking at culvert outlets	300	X-05-099_P5300014
X-05-100	Looking upstream from bridge crossing	190	X-05-100_P5310001
X-05-100	Looking downstream from bridge crossing	10	X-05-100_P5310002
X-05-101	Looking upstream from culvert crossing	315	X-05-101_P5310003
X-05-101	Looking downstream from culvert crossing	90	X-05-101_P5310004
X-05-101	Looking at culvert inlets	120	X-05-101_P5310005
X-05-102	Looking upstream from bridge crossing	305	X-05-102_P5310006
X-05-102	Looking downstream from bridge crossing	125	X-05-102_P5310007
X-05-103	Looking upstream from bridge crossing	240	X-05-103_P5310008
X-05-103	Looking downstream from bridge crossing	40	X-05-103_P5310009
X-05-104	Looking upstream from culvert crossing	250	X-05-104_P5310010
X-05-104	Looking downstream from culvert crossing	60	X-05-104_P5310011
X-05-104	Looking at culvert inlets	120	X-05-104_P5310012
X-05-104	Looking at culvert outlets	265	X-05-104_P5310013
X-05-104	Photo of Creek Chub (fork length = 200mm)	N/A	X-05-104_P5310014
X-05-105	Looking upstream from bridge crossing	225	X-05-105_P6010001
X-05-105	Looking downstream from bridge crossing	80	X-05-105_P6010002
X-05-106	Looking upstream from bridge crossing	270	X-05-106_P6010003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-106	Looking downstream from bridge crossing	90	X-05-106_P6010004
X-05-107	Looking upstream from mid-riffle	190	X-05-107_P6010005
X-05-107	Looking downstream from mid-riffle	360	X-05-107_P6010006
X-05-107	Looking upstream at riffle	220	X-05-107_P6010007
X-05-108	Looking upstream from cement box culvert	265	X-05-108_P6010008
X-05-108	Looking downstream from cement box culvert	80	X-05-108_P6010009
X-05-108	Looking at culvert inlets	105	X-05-108_P6010010
X-05-108	Looking at culvert outlets	270	X-05-108_P6010011
X-05-109	Looking upstream from bridge crossing	245	X-05-109_P6010012
X-05-109	Looking downstream from bridge crossing	40	X-05-109_P6010013
X-05-110	Looking upstream from culvert crossing	270	X-05-110_P6020001
X-05-110	Looking downstream from culvert crossing	90	X-05-110_P6020002
X-05-110	Looking at culvert outlet	60	X-05-110_P6020003
X-05-110	Looking at culvert inlets	330	X-05-110_P6020004
X-05-111	Looking upstream from culvert crossing	220	X-05-111_P6020005
X-05-111	Looking downstream from culvert crossing	40	X-05-111_P6020006
X-05-111	Looking at culvert inlets	350	X-05-111_P6020007
X-05-111	Looking at culvert outlets	170	X-05-111_P6020008
X-05-112	Looking upstream from culvert crossing	320	X-05-112_P6020009
X-05-112	Looking downstream from culvert crossing	180	X-05-112_P6020010
X-05-112	Looking at culvert inlets	115	X-05-112_P6020011
X-05-112	Looking at culvert outlets	60	X-05-112_P6020012
X-05-112	Looking at ford crossing	270	X-05-112_P6020013
X-05-113	Looking upstream from culvert crossing	270	X-05-113_P6020014
X-05-113	Looking downstream from culvert crossing	90	X-05-113_P6020015
X-05-113	Looking at culvert inlets	45	X-05-113_P6020016
X-05-113	Looking at culvert outlets	320	X-05-113_P6020017
X-05-114	Looking upstream from bridge crossing	200	X-05-114_P6020018
X-05-114	Looking downstream from bridge crossing	90	X-05-114_P6020019
X-05-115	Looking upstream from culvert crossing	290	X-05-115_P6020020
X-05-115	Looking downstream from culvert crossing	115	X-05-115_P6020021
X-05-115	Looking at culvert inlets	120	X-05-115_P6020022
X-05-115	Looking at culvert outlets	275	X-05-115_P6020023

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-116	Looking upstream from bridge crossing	315	X-05-116_P6020024
X-05-116	Looking downstream from bridge crossing	115	X-05-116_P6020025
X-05-117	Looking upstream from bridge crossing	220	X-05-117_P6020026
X-05-117	Looking downstream from bridge crossing	30	X-05-117_P6020027
X-05-118	Looking upstream from bridge crossing	270	X-05-118_P6060001
X-05-118	Looking downstream from bridge crossing	90	X-05-118_P6060002
X-05-119	Looking upstream from culvert crossing	350	X-05-119_P6060003
X-05-119	Looking downstream from culvert crossing	155	X-05-119_P6060004
X-05-119	Looking at culvert outlets	315	X-05-119_P6060005
X-05-119	Looking at culvert inlets	200	X-05-119_P6060006
X-05-120	Looking upstream from culvert crossing	270	X-05-120_P6060007
X-05-120	Looking downstream from culvert crossing	140	X-05-120_P6060008
X-05-120	Looking at culvert inlets	80	X-05-120_P6060009
X-05-120	Looking at culvert outlets	330	X-05-120_P6060010
X-05-121	Looking upstream from culvert crossing	265	X-05-121_P6060011
X-05-121	Looking downstream from culvert crossing	10	X-05-121_P6060012
X-05-121	Looking at culvert inlets	30	X-05-121_P6060013
X-05-121	Looking at culvert outlets	24	X-05-121_P6060014
X-05-122	Looking upstream from ford crossing	220	X-05-122_P6060015
X-05-122	Looking downstream from ford crossing	130	X-05-122_P6060016
X-05-122	Looking at Looking at culvert inlets	30	X-05-122_P6060017
X-05-122	Looking at Looking at culvert outlets	310	X-05-122_P6060018
X-05-123	Looking upstream from culvert crossing	20	X-05-123_P6070001
X-05-123	Looking downstream from culvert crossing	180	X-05-123_P6070002
X-05-123	Looking at culvert inlets	160	X-05-123_P6070003
X-05-123	Looking at culvert outlets	310	X-05-123_P6070004
X-05-124	Looking upstream from bridge crossing	290	X-05-124_P6070005
X-05-124	Looking downstream from bridge crossing	130	X-05-124_P6070006
X-05-125	Looking upstream from culvert crossing	160	X-05-125_P6070007
X-05-125	Looking downstream from culvert crossing	360	X-05-125_P6070008
X-05-125	Looking at culvert inlet	45	X-05-125_P6070009
X-05-125	Looking at culvert outlet	220	X-05-125_P6070010
X-05-125	Photo of a White Sucker	N/A	X-05-125_P6070011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-126	Looking upstream from culvert crossing	100	X-05-126_P6070012
X-05-126	Looking downstream from culvert crossing	320	X-05-126_P6070013
X-05-126	Looking at culvert inlets	170	X-05-126_P6070014
X-05-126	Looking at culvert outlets	290	X-05-126_P6070015
X-05-127	Looking upstream from culvert crossing	140	X-05-127_P6090001
X-05-127	Looking downstream from culvert crossing	310	X-05-127_P6090002
X-05-127	Looking down at culvert inlets	290	X-05-127_P6090003
X-05-127	Looking at culvert outlets	200	X-05-127_P6090004
X-05-128	Looking upstream from culvert crossing	65	X-05-128_P6090005
X-05-128	Looking further upstream from right bank	150	X-05-128_P6090006
X-05-128	Looking downstream from culvert crossing	280	X-05-128_P6090007
X-05-128	Looking at culvert inlet	10	X-05-128_P6090008
X-05-128	Looking at culvert outlet	100	X-05-128_P6090009
X-05-129	Looking upstream from bridge crossing	260	X-05-129_P6100001
X-05-129	Looking downstream from bridge crossing	30	X-05-129_P6100002
X-05-130	Looking upstream from culvert crossing	270	X-05-130_P6100003
X-05-130	Looking downstream from culvert crossing	90	X-05-130_P6100004
X-05-130	Looking at culvert inlets	45	X-05-130_P6100005
X-05-130	Looking at culvert outlets	315	X-05-130_P6100006
X-05-131	Looking upstream from culvert crossing	360	X-05-131_P6130001
X-05-131	Looking downstream from culvert crossing	270	X-05-131_P6130002
X-05-132	Looking upstream from culvert crossing	360	X-05-132_P6130003
X-05-132	Looking downstream from culvert crossing	180	X-05-132_P6130004
X-05-132	Looking at culvert inlets	245	X-05-132_P6130005
X-05-132	Looking at culvert outlets	30	X-05-132_P6130006
X-05-133	Looking upstream from culvert crossing	30	X-05-133_P6130007
X-05-133	Looking downstream from culvert crossing	320	X-05-133_P6130008
X-05-133	Looking at culvert inlet	300	X-05-133_P6130009
X-05-133	Looking at culvert outlet	95	X-05-133_P6130010
X-05-134	Looking upstream from culvert crossing	330	X-05-134_P6130011
X-05-134	Looking downstream from culvert crossing	180	X-05-134_P6130012
X-05-134	Looking at culvert inlets	110	X-05-134_P6130013
X-05-135	Looking upstream from culvert crossing	360	X-05-135_P6130014

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-135	Looking downstream from culvert crossing	185	X-05-135_P6130015
X-05-135	Looking at culvert inlet	120	X-05-135_P6130016
X-05-135	Looking at culvert outlet	35	X-05-135_P6130017
X-05-136	Looking upstream from bridge crossing	270	X-05-136_P6130018
X-05-136	Looking downstream from bridge crossing	110	X-05-136_P6130019
X-05-137	Looking upstream from culvert crossing	290	X-05-137_P6140001
X-05-137	Looking downstream from culvert crossing	80	X-05-137_P6140002
X-05-137	Looking at culvert inlets	145	X-05-137_P6140003
X-05-137	Looking at culvert outlets	220	X-05-137_P6140004
X-05-138	Looking upstream from culvert crossing	300	X-05-138_P6140005
X-05-138	Looking downstream from culvert crossing	45	X-05-138_P6140006
X-05-138	Looking at culvert inlet	90	X-05-138_P6140007
X-05-138	Looking at culvert outlet	310	X-05-138_P6140008
X-05-139	Looking upstream from culvert crossing	240	X-05-139_P6140009
X-05-139	Looking downstream from culvert crossing	40	X-05-139_P6140010
X-05-139	Looking at culvert inlets	210	X-05-139_P6140011
X-05-139	Looking at culvert outlets	155	X-05-139_P6140012
X-05-140	Looking upstream from culvert crossing	190	X-05-140_P6140013
X-05-140	Looking downstream from culvert crossing	360	X-05-140_P6140014
X-05-140	Looking at culvert inlet	45	X-05-140_P6140015
X-05-140	Looking at potential barrier to fish passage	135	X-05-140_P6140016
X-05-140	Looking at culvert outlet	230	X-05-140_P6140017
X-05-141	Looking upstream from bridge crossing	210	X-05-141_P6140018
X-05-141	Looking downstream from bridge crossing	60	X-05-141_P6140019
X-05-142	Looking upstream from culvert crossing	280	X-05-142_P6150001
X-05-142	Looking downstream from culvert crossing	45	X-05-142_P6150002
X-05-142	Looking at culvert inlet	150	X-05-142_P6150003
X-05-142	Looking at culvert outlet	220	X-05-142_P6150004
X-05-143	Looking upstream from culvert crossing	275	X-05-143_P6150005
X-05-143	Looking downstream from culvert crossing	45	X-05-143_P6150006
X-05-143	Looking at culvert inlet	80	X-05-143_P6150007
X-05-143	Looking at culvert outlet	330	X-05-143_P6150008
X-05-144	Looking upstream from culvert crossing	80	X-05-144_P6150009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-144	Looking downstream from culvert crossing	250	X-05-144_P6150010
X-05-144	Looking at culvert outlets	120	X-05-144_P6150011
X-05-144	Photo of Pearl Dace	N/A	X-05-144_P6150012
X-05-144	Photo of Pearl Dace	N/A	X-05-144_P6150013
X-05-144	Photo of Pearl Dace	N/A	X-05-144_P6150014
X-05-144	Photo of Pearl Dace	N/A	X-05-144_P6150015
X-05-145	Looking upstream from culvert crossing	250	X-05-145_P6150016
X-05-145	Looking downstream from culvert crossing	30	X-05-145_P6150017
X-05-145	Looking at culvert inlets	70	X-05-145_P6150018
X-05-145	Looking at culvert outlets	220	X-05-145_P6150019
X-05-145	Looking at cement box culvert near old bridge	110	X-05-145_P6150020
X-05-146	Looking upstream at 2nd order tributary to the east	60	X-05-146_P6160001
X-05-146	Looking upstream at 2nd order tributary to the west	315	X-05-146_P6160002
X-05-146	Looking downstream from culvert crossing	180	X-05-146_P6160003
X-05-146	Looking downstream from culvert crossing	150	X-05-146_P6160004
X-05-146	Looking at east culvert outlet	30	X-05-146_P6160005
X-05-146	Looking at west culvert outlet	300	X-05-146_P6160006
X-05-147	Looking upstream from culvert crossing	260	X-05-147_P6170001
X-05-147	Looking upstream at cattle impacts on left bank	310	X-05-147_P6170002
X-05-147	Looking upstream at right bank from culvert crossing	230	X-05-147_P6170003
X-05-147	Looking downstream from culvert crossing	80	X-05-147_P6170004
X-05-147	Looking downstream from culvert crossing	20	X-05-147_P6170005
X-05-148	Looking upstream from bridge crossing	310	X-05-148_P6170006
X-05-148	Looking downstream from bridge crossing	140	X-05-148_P6170007
X-05-149	Looking upstream from culvert crossing	230	X-05-149_P6210001
X-05-149	Looking downstream from culvert crossing	340	X-05-149_P6210002
X-05-150	Looking upstream from culvert crossing	230	X-05-150_P6210003
X-05-150	Looking downstream from culvert crossing	60	X-05-150_P6210004
X-05-150	Looking at culvert inlet	100	X-05-150_P6210005
X-05-150	Looking at perched outlet	310	X-05-150_P6210006
X-05-151	Looking upstream from culvert crossing	300	X-05-151_P6210007
X-05-151	Looking downstream from culvert crossing	90	X-05-151_P6210008
X-05-151	Looking at culvert inlet	45	X-05-151_P6210009

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-151	Looking at culvert outlet	N/A	X-05-151_P6210010
X-05-152	Looking upstream from culvert crossing	240	X-05-152_P6210011
X-05-152	Looking downstream from culvert crossing	20	X-05-152_P6210012
X-05-152	Looking at culvert inlets	180	X-05-152_P6210013
X-05-152	Looking at culvert outlets	150	X-05-152_P6210014
X-05-153	Looking upstream from culvert crossing	160	X-05-153_P6210015
X-05-153	Looking downstream from culvert crossing	40	X-05-153_P6210016
X-05-153	Looking further downstream from left bank	65	X-05-153_P6210017
X-05-153	Looking at culvert outlet	160	X-05-153_P6210018
X-05-153	Looking at culvert inlet	320	X-05-153_P6210019
X-05-154	Looking upstream from culvert crossing	260	X-05-154_P6210020
X-05-154	Looking downstream from culvert crossing	80	X-05-154_P6210021
X-05-154	Looking at culvert inlet	40	X-05-154_P6210022
X-05-154	Looking at culvert outlet	300	X-05-154_P6210023
X-05-155	Looking upstream from bridge crossing	295	X-05-155_P6220005
X-05-155	Looking downstream from bridge crossing	65	X-05-155_P6220006
X-05-156	Looking upstream from culvert crossing	240	X-05-156_P6220007
X-05-156	Looking downstream from culvert crossing	15	X-05-156_P6220008
X-05-156	Looking at culvert inlets	70	X-05-156_P6220009
X-05-156	Looking at culvert outlets	100	X-05-156_P6220010
X-05-157	Looking upstream from bridge crossing	250	X-05-157_P6220011
X-05-157	Looking downstream from bridge crossing	50	X-05-157_P6220012
X-05-158	Looking upstream from culvert crossing	125	X-05-158_P6220013
X-05-158	Looking downstream from culvert crossing	280	X-05-158_P6220014
X-05-158	Looking at culvert inlet	340	X-05-158_P6220015
X-05-158	Looking at culvert outlet	150	X-05-158_P6220016
X-05-159	Looking upstream from culvert crossing	130	X-05-159_P6230001
X-05-159	Looking downstream from culvert crossing	290	X-05-159_P6230002
X-05-159	Looking at culvert inlet	350	X-05-159_P6230003
X-05-159	Looking at culvert outlet	150	X-05-159_P6230004
X-05-160	Looking upstream from culvert crossing	250	X-05-160_P6230005
X-05-160	Looking downstream from culvert crossing	40	X-05-160_P6230006
X-05-161	Looking upstream from culvert crossing	220	X-05-161_P6230007

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-161	Looking downstream from culvert crossing	10	X-05-161_P6230008
X-05-162	Looking upstream from bridge crossing	180	X-05-162_P6230009
X-05-162	Looking downstream from bridge crossing	360	X-05-162_P6230010
X-05-163	Looking upstream from culvert crossing	140	X-05-163_P6230011
X-05-163	Looking downstream from culvert crossing	40	X-05-163_P6230012
X-05-163	Looking at culvert inlets	300	X-05-163_P6230013
X-05-163	Looking at culvert outlets	N/A	X-05-163_P6230014
X-05-164	Looking upstream from culvert crossing	300	X-05-164_P6230015
X-05-164	Looking downstream from culvert crossing	100	X-05-164_P6230016
X-05-164	Looking at culvert inlets	45	X-05-164_P6230017
X-05-164	Looking at culvert outlets	255	X-05-164_P6230034
X-05-165	Looking upstream from culvert crossing	210	X-05-165_P6270001
X-05-165	Looking downstream from culvert crossing	340	X-05-165_P6270002
X-05-165	Looking at culvert inlet	50	X-05-165_P6270003
X-05-165	Looking at culvert outlet	135	X-05-165_P6270004
X-05-166	Looking upstream from culvert crossing	130	X-05-166_P6270005
X-05-166	Looking downstream from culvert crossing	320	X-05-166_P6270006
X-05-166	Looking downstream from culvert crossing	360	X-05-166_P6270007
X-05-166	Looking down at inlet	150	X-05-166_P6270008
X-05-166	Looking at culvert outlet	270	X-05-166_P6270009
X-05-166	Looking at perched outlet	260	X-05-166_P6270010
X-05-166	Looking at perched outlet	65	X-05-166_P6270011
X-05-167	Looking upstream from culvert crossing	235	X-05-167_P6280001
X-05-167	Looking downstream from culvert crossing	40	X-05-167_P6280002
X-05-167	Looking at left culvert inlet	45	X-05-167_P6280003
X-05-167	Looking at right culvert inlet	55	X-05-167_P6280004
X-05-167	Looking at left culvert outlet	280	X-05-167_P6280005
X-05-167	Looking at right culvert outlet	250	X-05-167_P6280006
X-05-168	Looking upstream from culvert crossing	200	X-05-168_P6280007
X-05-168	Looking downstream from culvert crossing	340	X-05-168_P6280008
X-05-168	Looking at culvert inlet	320	X-05-168_P6280009
X-05-168	Looking at culvert outlet	200	X-05-168_P6280010
X-05-169	Looking upstream from culvert crossing	70	X-05-169_P6280011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-169	Looking downstream from culvert crossing	340	X-05-169_P6280012
X-05-169	Looking at culvert inlets	360	X-05-169_P6280013
X-05-169	Looking at culvert outlets	200	X-05-169_P6280014
X-05-170	Looking upstream from culvert crossing	180	X-05-170_P6280015
X-05-170	Looking downstream from culvert crossing	280	X-05-170_P6280016
X-05-170	Looking at culvert outlet	150	X-05-170_P6280017
X-05-171	Looking upstream from culvert crossing	205	X-05-171_P6280018
X-05-171	Looking downstream from culvert crossing	350	X-05-171_P6280019
X-05-171	Looking at culvert inlet	320	X-05-171_P6280020
X-05-171	Looking at culvert outlet	115	X-05-171_P6280021
X-05-172	Looking upstream from bridge crossing	260	X-05-172_P6290001
X-05-172	Looking downstream from bridge crossing	80	X-05-172_P6290002
X-05-172	Looking downstream from 15 m North of the bridge crossing	120	X-05-172_P6290003
X-05-172	Looking at Northern Pike	N/A	X-05-172_P6290004
X-05-172	Looking at Northern Pike	N/A	X-05-172_P6290005
X-05-173	Looking upstream from bridge crossing	270	X-05-173_P6290006
X-05-173	Looking downstream from bridge crossing	80	X-05-173_P6290007
X-05-174	Looking upstream from bridge crossing	300	X-05-174_P6300001
X-05-174	Looking downstream from bridge crossing	80	X-05-174_P6300002
X-05-175	Looking upstream from bridge crossing	240	X-05-175_P6300003
X-05-175	Looking downstream from bridge crossing	90	X-05-175_P6300004
X-05-176	Looking upstream from mid-reach	180	X-05-176_P7040005
X-05-176	Looking downstream from mid-reach	90	X-05-176_P7040006
X-05-177	Looking upstream from culvert crossing	330	X-05-177_P7040007
X-05-177	Looking downstream from culvert crossing	100	X-05-177_P7040008
X-05-177	Looking at culvert inlet	360	X-05-177_P7040009
X-05-177	Looking at culvert outlet	210	X-05-177_P7040010
X-05-178	Looking upstream from culvert crossing	150	X-05-178_P7050001
X-05-178	Looking downstream from culvert crossing	330	X-05-178_P7050002
X-05-178	Looking at culvert inlets	70	X-05-178_P7050003
X-05-178	Looking at culvert outlets	95	X-05-178_P7050004
X-05-179	Looking upstream from culvert crossing	350	X-05-179_P7050005
X-05-179	Looking downstream from culvert crossing	130	X-05-179_P7050006

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-179	Looking downstream (from ~10 m south of crossing) at cattle impacts	100	X-05-179_P7050007
X-05-179	Looking at culvert inlet	130	X-05-179_P7050008
X-05-179	Looking at culvert outlet	300	X-05-179_P7050009
X-05-180	Looking upstream from culvert crossing	100	X-05-180_P7050010
X-05-180	Looking downstream from culvert crossing	260	X-05-180_P7050011
X-05-180	Looking down at right outlet	N/A	X-05-180_P7050012
X-05-181	Looking upstream from culvert crossing	270	X-05-181_P7060001
X-05-181	Looking downstream from culvert crossing	90	X-05-181_P7060002
X-05-181	Looking at culvert inlets	120	X-05-181_P7060003
X-05-181	Looking at culvert outlets	200	X-05-181_P7060004
X-05-182	Looking upstream from culvert crossing	270	X-05-182_P7060005
X-05-182	Looking downstream from culvert crossing	90	X-05-182_P7060006
X-05-182	Looking at culvert inlets	270	X-05-182_P7060007
X-05-182	Looking at culvert outlets	90	X-05-182_P7060008
X-05-183	Looking upstream from culvert crossing	290	X-05-183_P7060009
X-05-183	Looking downstream from culvert crossing	100	X-05-183_P7060010
X-05-183	Looking at culvert inlets	140	X-05-183_P7060011
X-05-183	Looking at culvert outlets	350	X-05-183_P7060012
X-05-184	Looking upstream from culvert crossing	350	X-05-184_P7060013
X-05-184	Looking downstream from culvert crossing	170	X-05-184_P7060014
X-05-184	Looking at culvert inlets	100	X-05-184_P7060015
X-05-184	Looking at culvert outlets	20	X-05-184_P7060016
X-05-184	Looking upstream at 2nd order tributary	90	X-05-184_P7060017
X-05-184	Looking upstream at 2nd order tributary	90	X-05-184_P7060018
X-05-185	Looking upstream from culvert crossing	280	X-05-185_P7070001
X-05-185	Looking downstream from culvert crossing	130	X-05-185_P7070002
X-05-185	Looking downstream from culvert crossing	90	X-05-185_P7070003
X-05-185	Looking at culvert inlets	150	X-05-185_P7070004
X-05-185	Looking at culvert outlets	330	X-05-185_P7070005
X-05-185	Photo of Common Carp released (fork length = 800mm)	N/A	X-05-185_P7070006
X-05-185	Photo of Common Carp released (total length = 800mm)	N/A	X-05-185_P7070007
X-05-186	Looking upstream from culvert crossing	270	X-05-186_P7070008
X-05-186	Looking downstream from culvert crossing	90	X-05-186_P7070009

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-186	Looking at culvert inlets	70	X-05-186_P7070010
X-05-186	Looking at culvert outlets	200	X-05-186_P7070011
X-05-187	Looking upstream from culvert crossing	180	X-05-187_P7070012
X-05-187	Looking downstream from culvert crossing	360	X-05-187_P7070013
X-05-187	Looking at culvert inlets	340	X-05-187_P7070014
X-05-187	Looking at culvert outlets	210	X-05-187_P7070015
X-05-187	Looking at 2nd order tributary	270	X-05-187_P7070016
X-05-188	Looking upstream from culvert crossing	350	X-05-188_P7070017
X-05-188	Looking downstream from culvert crossing	170	X-05-188_P7070038
X-05-189	Looking upstream from culvert crossing	90	X-05-189_P7080001
X-05-189	Looking downstream from culvert crossing	270	X-05-189_P7080002
X-05-189	Looking at culvert inlets	230	X-05-189_P7080003
X-05-189	Looking at culvert outlets	120	X-05-189_P7080004
X-05-190	Looking upstream from bridge crossing	80	X-05-190_P7110001
X-05-190	Looking downstream from bridge crossing	270	X-05-190_P7110002
X-05-191	Looking upstream from culvert crossing	280	X-05-191_P7120002
X-05-191	Looking downstream from culvert crossing	100	X-05-191_P7120003
X-05-191	Looking at culvert inlet	40	X-05-191_P7120004
X-05-191	Looking at outlet	320	X-05-191_P7120005
X-05-192	Looking upstream from culvert crossing	330	X-05-192_P7130001
X-05-192	Looking upstream from culvert crossing	350	X-05-192_P7130002
X-05-192	Looking downstream from left outlet	120	X-05-192_P7130003
X-05-192	Looking downstream from right outlet	170	X-05-192_P7130004
X-05-192	Looking downstream from culvert crossing	150	X-05-192_P7130005
X-05-192	Looking at left culvert inlet	70	X-05-192_P7130006
X-05-192	Looking at right culvert inlet	240	X-05-192_P7130007
X-05-192	Looking at left culvert outlet	10	X-05-192_P7130008
X-05-192	Looking at right culvert outlet	20	X-05-192_P7130009
X-05-193	Looking upstream from culvert crossing	300	X-05-193_P7130010
X-05-193	Looking downstream from culvert crossing	130	X-05-193_P7130011
X-05-193	Looking at culvert inlets	90	X-05-193_P7130012
X-05-193	Looking at culvert outlets	320	X-05-193_P7130013
X-05-194	Looking upstream from bridge crossing	250	X-05-194_P7130014

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-194	Looking downstream from bridge crossing	70	X-05-194_P7130015
X-05-195	Looking upstream from culvert crossing	270	X-05-195_P7130016
X-05-195	Looking downstream from culvert crossing	90	X-05-195_P7130017
X-05-195	Looking at culvert inlets	100	X-05-195_P7130018
X-05-195	Looking at culvert outlets	290	X-05-195_P7130019
X-05-196	Looking upstream from culvert crossing	170	X-05-196_P7140001
X-05-196	Looking downstream from culvert crossing	50	X-05-196_P7140002
X-05-196	Looking at culvert inlets	335	X-05-196_P7140003
X-05-196	Looking at culvert outlets	170	X-05-196_P7140004
X-05-196	Looking upstream at 2nd order tributary	270	X-05-196_P7140005
X-05-196	Looking at culvert inlets of 2nd order tributary	360	X-05-196_P7140006
X-05-196	Looking at culvert outlets of 2nd order tributary	230	X-05-196_P7140007
X-05-197	Looking upstream from culvert crossing	310	X-05-197_P7140008
X-05-197	Looking downstream from culvert crossing	145	X-05-197_P7140009
X-05-197	Looking at culvert inlets	150	X-05-197_P7140010
X-05-197	Looking at culvert outlets	250	X-05-197_P7140011
X-05-198	Looking upstream from left bank of ford crossing	300	X-05-198_P7140012
X-05-198	Looking downstream from left bank of ford crossing	70	X-05-198_P7140013
X-05-198	Looking at gravel ford crossing	340	X-05-198_P7140014
X-05-199	Looking upstream from culvert crossing	230	X-05-199_P7140015
X-05-199	Looking downstream from culvert crossing	20	X-05-199_P7140016
X-05-199	Looking at culvert inlet	40	X-05-199_P7140017
X-05-199	Looking at culvert outlet	140	X-05-199_P7140018
X-05-200	Looking upstream from bridge crossing	170	X-05-200_P7150001
X-05-200	Looking downstream from bridge crossing	40	X-05-200_P7150002
X-05-201	Looking upstream from culvert crossing	220	X-05-201_P8030001
X-05-201	Looking downstream from culvert crossing	20	X-05-201_P8030002
X-05-201	Looking at culvert inlets	50	X-05-201_P8030003
X-05-201	Looking at culvert outlets	170	X-05-201_P8030004
X-05-202	Looking upstream from culvert crossing	150	X-05-202_P8030005
X-05-202	Looking upstream from east of crossing	185	X-05-202_P8030006
X-05-202	Looking downstream from culvert crossing	320	X-05-202_P8030007
X-05-202	Looking at culvert inlet	360	X-05-202_P8030008

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
X-05-202	Looking at culvert outlet	160	X-05-202_P8030009
X-05-203	Looking upstream from bridge crossing at Pembina River	250	X-05-203_P8030010
X-05-203	Looking upstream from bridge crossing at North Pembina River	360	X-05-203_P8030011
X-05-203	Looking downstream from bridge crossing	115	X-05-203_P8030012
X-05-203	Looking at cattle impacts	125	X-05-203_P8030013
X-05-203	Looking at cattle impacts	115	X-05-203_P8030014
X-05-203	Looking at cattle impacts	110	X-05-203_P8030015
X-05-204	Looking upstream from culvert crossing	270	X-05-204_P8040001
X-05-204	Looking downstream from culvert crossing	90	X-05-204_P8040002
X-05-204	Looking at culvert inlet	45	X-05-204_P8040003
X-05-204	Looking at culvert outlet	360	X-05-204_P8040004
X-05-204	Photo of Yellow Perch	N/A	X-05-204_P8040005
X-05-204	Photo of Ashley and Ashley with Yellow Perch	N/A	X-05-204_P8040008
X-05-204	Photo of Ashley and Ashley with Yellow Perch	N/A	X-05-204_P8040009
X-05-205	Looking downstream from culvert crossing	300	X-05-205_P8040010
X-05-205	Looking upstream from culvert crossing	90	X-05-205_P8040011
X-05-205	Looking at culvert outlet	330	X-05-205_P8040012
X-05-205	Looking at culvert inlet	210	X-05-205_P8040013
X-05-205	Looking upstream at 1st order tributary	360	X-05-205_P8040014
X-05-206	Looking upstream from culvert crossing	350	X-05-206_P8040015
X-05-206	Looking downstream from culvert crossing	150	X-05-206_P8040016
X-05-206	Looking at culvert inlet	100	X-05-206_P8040017
X-05-206	Looking at culvert outlet	180	X-05-206_P8040018
X-05-207	Looking upstream from right bank	150	X-05-207_P8040021
X-05-207	Looking downstream from right bank	310	X-05-207_P8040022
X-05-208	Looking upstream from culvert crossing	340	X-05-208_P8040023
X-05-208	Looking downstream from 1st culvert crossing	90	X-05-208_P8040024
X-05-208	Looking downstream from 2nd culvert crossing	140	X-05-208_P8040025
X-05-208	Looking at first set of culvert inlets	20	X-05-208_P8040026
X-05-208	Looking at first set of culvert outlets	300	X-05-208_P8040027
X-05-208	Looking at second set of culvert inlets	100	X-05-208_P8040028
X-05-208	Looking at second set of culvert outlets	360	X-05-208_P8040029
X-05-208	Photo of Ashley P. and Vaughn fishing	N/A	X-05-208_P8040030

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
X-05-208	Photo of Ashley W. and Vaughn fishing	N/A	X-05-208_P8040031
X-05-208	Photo of Ashley W. and Vaughn fishing	N/A	X-05-208_P8040032
X-05-210	Looking upstream from culvert crossing	265	X-05-210_P6220001
X-05-210	Looking downstream from culvert crossing	150	X-05-210_P6220002
X-05-210	Looking at culvert inlets	100	X-05-210_P6220003
X-05-210	Looking at culvert outlets	290	X-05-210_P6220004
D-06-001	Looking upstream from mid-reach	180	D-06-001_P7060001
D-06-001	Looking downstream from mid-reach	0	D-06-001_P7060002
D-06-001	Looking downstream under bridge	0	D-06-001_P7060003
W-06-001	Looking upstream from culvert crossing	90	W-06-001_P5090001
W-06-001	Looking downstream from culvert crossing	270	W-06-001_P5090002
W-06-001	Looking at culvert inlets	10	W-06-001_P5090003
W-06-001	Looking at culvert outlets	295	W-06-001_P5090004
W-06-001	Photo of eroded / damaged crossing	0	W-06-001_P5090005
W-06-002	Looking upstream from culvert crossing	270	W-06-002_P5090006
W-06-002	Looking downstream from culvert crossing	45	W-06-002_P5090007
W-06-002	Looking at culvert inlets	15	W-06-002_P5090008
W-06-002	Looking at culvert outlets	345	W-06-002_P5090009
W-06-003	Looking upstream from bridge crossing	20	W-06-003_P5090010
W-06-003	Looking downstream from bridge crossing	210	W-06-003_P5090011
W-06-004	Looking upstream from bridge crossing	40	W-06-004_P5090012
W-06-004	Looking downstream from bridge crossing	130	W-06-004_P5090013
W-06-005	Looking upstream from culvert crossing	20	W-06-005_P5090014
W-06-005	Looking upstream from culvert crossing	330	W-06-005_P5090015
W-06-005	Looking upstream from culvert crossing	300	W-06-005_P5090016
W-06-005	Looking downstream from culvert crossing	250	W-06-005_P5090017
W-06-005	Looking downstream from culvert crossing	200	W-06-005_P5090018
W-06-005	Looking downstream from culvert crossing	160	W-06-005_P5090019
W-06-005	Looking at west culvert inlet from bank	330	W-06-005_P5090020
W-06-006	Looking upstream from culvert crossing	0	W-06-006_P5100001
W-06-006	Looking downstream from culvert crossing	180	W-06-006_P5100002
W-06-006	Looking at culvert inlets	350	W-06-006_P5100003
W-06-006	Looking at culvert outlets	350	W-06-006_P5100004

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-06-007	Looking upstream from culvert crossing	0	W-06-007_P5100005
W-06-007	Looking downstream from culvert crossing	180	W-06-007_P5100006
W-06-007	Looking at culvert inlets	250	W-06-007_P5100007
W-06-007	Looking at culvert outlets	280	W-06-007_P5100008
W-06-008	Looking upstream from culvert crossing	170	W-06-008_P5100009
W-06-008	Looking downstream from culvert crossing	0	W-06-008_P5100010
W-06-008	Looking at culvert inlet	85	W-06-008_P5100011
W-06-008	Looking at culvert outlet	110	W-06-008_P5100012
W-06-009	Looking upstream from culvert crossing	45	W-06-009_P5100013
W-06-009	Looking downstream from culvert crossing	315	W-06-009_P5100014
W-06-009	Looking at culvert inlet	160	W-06-009_P5100015
W-06-009	Looking at culvert outlet	60	W-06-009_P5100016
W-06-010	Looking upstream from culvert crossing	270	W-06-010_P5100017
W-06-010	Looking downstream from culvert crossing	90	W-06-010_P5100018
W-06-010	Looking at culvert inlet	90	W-06-010_P5100019
W-06-010	Looking at culvert outlet	270	W-06-010_P5100020
W-06-010	Looking at culvert outlet	270	W-06-010_P5100021
W-06-011	Looking upstream from culvert crossing	340	W-06-011_P5110001
W-06-011	Looking downstream from culvert crossing	140	W-06-011_P5110002
W-06-011	Looking at culvert inlets	90	W-06-011_P5110003
W-06-011	Looking at culvert outlets	300	W-06-011_P5110004
W-06-012	Looking upstream from culvert crossing	45	W-06-012_P5110005
W-06-012	Looking downstream from culvert crossing	180	W-06-012_P5110006
W-06-012	Looking at culvert inlet	220	W-06-012_P5110007
W-06-012	Looking at culvert outlet	300	W-06-012_P5110008
W-06-013	Looking upstream from bridge crossing	0	W-06-013_P5110009
W-06-013	Looking downstream from bridge crossing	180	W-06-013_P5110010
W-06-013	Wide angle photo of crossing from road	270	W-06-013_P5110011
W-06-014	Looking upstream from culvert crossing	315	W-06-014_P5110012
W-06-014	Looking downstream from culvert crossing	110	W-06-014_P5110013
W-06-014	Looking at culvert inlet (North)	90	W-06-014_P5110014
W-06-014	Looking at culvert inlet (middle)	90	W-06-014_P5110015
W-06-014	Looking at culvert outlet (North)	270	W-06-014_P5110016

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-06-014	Looking at culvert outlet (middle)	270	W-06-014_P5110017
W-06-014	Looking at culvert outlet (South)	270	W-06-014_P5110018
W-06-014	Looking at culvert inlet (South)	90	W-06-014_P5110019
W-06-015	Looking upstream from bridge crossing	0	W-06-015_P5110020
W-06-015	Looking downstream from bridge crossing	180	W-06-015_P5110021
W-06-016	Looking upstream from bridge crossing	70	W-06-016_P5110022
W-06-016	Looking downstream from bridge crossing	270	W-06-016_P5110023
W-06-017	Looking downstream from bridge crossing	180	W-06-017_P5120001
W-06-018	Looking upstream from culvert crossing	90	W-06-018_P5120002
W-06-018	Looking downstream from culvert crossing	270	W-06-018_P5120003
W-06-018	Looking at culvert inlet	220	W-06-018_P5120004
W-06-018	Looking at culvert outlet	110	W-06-018_P5120005
W-06-018	Looking at the Northern Pike that was released	N/A	W-06-018_P5120006
W-06-019	Looking upstream in the third order tributary	165	W-06-019_P5150001
W-06-019	Looking upstream in the second order tributary	85	W-06-019_P5150002
W-06-019	Looking downstream from the bridge crossing	260	W-06-019_P5150003
W-06-019	Looking at gated bridge from the road	140	W-06-019_P5150004
W-06-019	Looking at other bridge from the road	220	W-06-019_P5150005
W-06-019	Looking at school of shiners and Common Carp	N/A	W-06-019_P5150006
W-06-019	Looking at school of shiners and Common Carp	N/A	W-06-019_P5150007
W-06-019	Looking at school of shiners and Common Carp	N/A	W-06-019_P5150008
W-06-019	Looking at school of shiners and Common Carp	N/A	W-06-019_P5150009
W-06-019	Looking at school of shiners and Common Carp	N/A	W-06-019_P5150010
W-06-019	Looking at school of shiners and Common Carp	N/A	W-06-019_P5150011
W-06-019	Looking at school of shiners and Common Carp	N/A	W-06-019_P5150012
W-06-019	Looking at school of shiners and Common Carp	N/A	W-06-019_P5150013
W-06-020	Looking at cow in the stream	90	W-06-020_P5150014
W-06-020	Looking upstream from the culvert crossing	270	W-06-020_P5150015
W-06-020	Looking downstream from the culvert crossing	60	W-06-020_P5150016
W-06-020	Looking at culvert inlet	0	W-06-020_P5150017
W-06-020	Looking at culvert outlet	320	W-06-020_P5150018
W-06-021	Looking upstream from the culvert crossing	270	W-06-021_P5160001
W-06-021	Looking downstream form the culvert crossing	90	W-06-021_P5160002

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-021	Looking at culvert inlet	45	W-06-021_P5160003
W-06-021	Looking at culvert outlet	330	W-06-021_P5160004
W-06-022	Looking upstream from ford crossing	270	W-06-022_P5160005
W-06-022	Looking downstream form ford crossing	90	W-06-022_P5160006
W-06-023	Released sucker	N/A	W-06-023_P5160007
W-06-023	Looking upstream from the culvert crossing	330	W-06-023_P5160008
W-06-023	Looking downstream from the culvert crossing	170	W-06-023_P5160009
W-06-023	Looking at culvert inlet	150	W-06-023_P5160010
W-06-023	Looking at culvert outlet	210	W-06-023_P5160011
W-06-024	Looking at cattle impacts upstream of culvert crossing	270	W-06-024_P5160012
W-06-024	Looking at cattle impacts upstream of culvert crossing	270	W-06-024_P5160013
W-06-024	Looking downstream of cattle crossing	90	W-06-024_P5160014
W-06-024	Looking at culvert inlet	45	W-06-024_P5160015
W-06-024	Looking at culvert outlet	345	W-06-024_P5160016
W-06-025	Looking upstream from culvert crossing	90	W-06-025_P5170001
W-06-025	Looking downstream from culvert crossing	270	W-06-025_P5170002
W-06-025	Looking at culvert inlet	250	W-06-025_P5170003
W-06-025	Looking at culvert outlet	130	W-06-025_P5170004
W-06-025	Looking at released suckers	N/A	W-06-025_P5170005
W-06-025	Looking at released suckers	N/A	W-06-025_P5170006
W-06-026	Looking upstream from culvert crossing	90	W-06-026_P5170007
W-06-026	Looking downstream from culvert crossing	270	W-06-026_P5170008
W-06-026	Looking at culvert inlet	315	W-06-026_P5170009
W-06-026	Looking at culvert outlet	45	W-06-026_P5170010
W-06-027	Looking downstream from culvert crossing	270	W-06-027_P5170011
W-06-027	Looking upstream from culvert crossing	90	W-06-027_P5170012
W-06-027	Looking at culvert inlet	315	W-06-027_P5170013
W-06-027	Looking at culvert outlet	45	W-06-027_P5170014
W-06-027	Looking at cattle impacts on the culvert crossing	250	W-06-027_P5170015
W-06-027	Looking at the released sucker	N/A	W-06-027_P5170016
W-06-028	Looking upstream from the culvert crossing	270	W-06-028_P5170017
W-06-028	Looking downstream from the culvert crossing	180	W-06-028_P5170018
W-06-028	Looking at culvert inlet	210	W-06-028_P5170019

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-06-028	Looking at culvert outlet	40	W-06-028_P5170020
W-06-028	Photo of released Northern Pike	N/A	W-06-028_P5170021
W-06-029	Looking upstream from bridge crossing	250	W-06-029_P5230001
W-06-029	Looking downstream from bridge crossing	70	W-06-029_P5230002
W-06-029	Photo of released suckers	N/A	W-06-029_P5230003
W-06-030	Looking upstream from bridge crossing	275	W-06-030_P5230004
W-06-030	Looking downstream from bridge crossing	90	W-06-030_P5230005
W-06-031	Looking upstream from bridge crossing	270	W-06-031_P5230006
W-06-031	Looking downstream from bridge crossing	90	W-06-031_P5230007
W-06-031	Looking at dredging/control structure	310	W-06-031_P5230008
W-06-031	Looking at dredging/control structure	310	W-06-031_P5230009
W-06-032	Looking upstream from culvert crossing	0	W-06-032_P5240001
W-06-032	Looking downstream from culvert crossing	180	W-06-032_P5240002
W-06-032	Looking at culvert inlet	240	W-06-032_P5240003
W-06-032	Looking at culvert outlet	0	W-06-032_P5240004
W-06-033	Looking upstream from culvert crossing	240	W-06-033_P5240005
W-06-033	Looking downstream from culvert crossing	40	W-06-033_P5240006
W-06-033	Looking at culvert inlets	30	W-06-033_P5240007
W-06-033	Looking at culvert outlets	230	W-06-033_P5240008
W-06-034	Looking upstream from culvert crossing	90	W-06-034_P5240009
W-06-034	Looking downstream from culvert crossing	270	W-06-034_P5240010
W-06-034	Looking at culvert inlets	315	W-06-034_P5240011
W-06-034	Looking at culvert outlets	170	W-06-034_P5240012
W-06-035	Looking upstream from culvert crossing	90	W-06-035_P5240013
W-06-035	Looking downstream from culvert crossing	180	W-06-035_P5240014
W-06-036	Looking upstream from culvert crossing	150	W-06-036_P5250001
W-06-036	Looking downstream from culvert crossing	300	W-06-036_P5250002
W-06-036	Looking at culvert inlet	240	W-06-036_P5250003
W-06-036	Looking at culvert outlet	160	W-06-036_P5250004
W-06-037	Looking upstream from culvert crossing	180	W-06-037_P5250005
W-06-037	Looking downstream from culvert crossing	0	W-06-037_P5250006
W-06-037	Looking at culvert inlets	340	W-06-037_P5250007
W-06-037	Looking at culvert outlets	210	W-06-037_P5250008

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-038	Looking upstream bridge crossing	180	W-06-038_P5250009
W-06-038	Looking downstream bridge crossing	0	W-06-038_P5250010
W-06-039	Looking upstream from culvert crossing	90	W-06-039_P5260001
W-06-039	Looking downstream from culvert crossing	270	W-06-039_P5260002
W-06-039	Looking at culvert inlets	170	W-06-039_P5260003
W-06-039	Looking at culvert outlets	190	W-06-039_P5260004
W-06-040	Looking upstream from culvert crossing	160	W-06-040_P5260005
W-06-040	Looking downstream from culvert crossing	350	W-06-040_P5260006
W-06-040	Looking at culvert inlets	220	W-06-040_P5260007
W-06-040	Looking at culvert outlets	45	W-06-040_P5260008
W-06-041	Looking upstream from culvert crossing	180	W-06-041_P5260009
W-06-041	Looking downstream from culvert crossing	0	W-06-041_P5260010
W-06-041	Looking at culvert inlet	260	W-06-041_P5260011
W-06-041	Looking at culvert outlet	170	W-06-041_P5260012
W-06-042	Looking upstream from culvert crossing	180	W-06-042_P5260013
W-06-042	Looking downstream from culvert crossing	0	W-06-042_P5260014
W-06-042	Looking at culvert inlet	N/A	W-06-042_P5260015
W-06-042	Looking at culvert outlet	N/A	W-06-042_P5260016
W-06-043	Looking upstream from culvert crossing	75	W-06-043_P5260017
W-06-043	Looking downstream from culvert crossing	0	W-06-043_P5260018
W-06-043	Looking at culvert inlets	270	W-06-043_P5260019
W-06-043	Looking at culvert outlets	265	W-06-043_P5260020
W-06-044	Looking upstream from culvert crossing	200	W-06-044_P5260021
W-06-044	Looking downstream from culvert crossing	70	W-06-044_P5260022
W-06-044	Looking at culvert inlet	340	W-06-044_P5260023
W-06-044	Looking at culvert outlet	290	W-06-044_P5260024
W-06-045	Looking upstream from culvert crossing	180	W-06-045_P5260025
W-06-045	Looking downstream from culvert crossing	0	W-06-045_P5260026
W-06-045	Looking at culvert inlets	60	W-06-045_P5260027
W-06-045	Looking at culvert outlets	130	W-06-045_P5260028
W-06-046	Looking upstream from culvert crossing	150	W-06-046_P5270001
W-06-046	Looking downstream from culvert crossing	340	W-06-046_P5270002
W-06-046	Looking at culvert inlet	340	W-06-046_P5270003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-06-046	Looking at culvert outlet	180	W-06-046_P5270004
W-06-047	Looking upstream from crossing	150	W-06-047_P5270005
W-06-047	Looking downstream from crossing	330	W-06-047_P5270006
W-06-047	Looking at inlet	30	W-06-047_P5270007
W-06-047	Looking at outlet	250	W-06-047_P5270008
W-06-047	Looking at water control structure	130	W-06-047_P5270009
W-06-048	Looking upstream from culvert crossing	90	W-06-048_P5270010
W-06-048	Looking downstream from culvert crossing	285	W-06-048_P5270011
W-06-048	Looking at culvert inlet	345	W-06-048_P5270012
W-06-048	Looking at culvert outlet	60	W-06-048_P5270013
W-06-049	Looking upstream from culvert crossing	270	W-06-049_P5270014
W-06-049	Looking downstream from culvert crossing	85	W-06-049_P5270015
W-06-049	Looking at culvert inlets	330	W-06-049_P5270016
W-06-049	Looking at culvert outlets	290	W-06-049_P5270017
W-06-049	Looking at bank erosion downstream of culverts	100	W-06-049_P5270018
W-06-049	Looking upstream of washout	200	W-06-049_P5270019
W-06-049	Looking downstream of washout	160	W-06-049_P5270020
W-06-049	Looking downstream of washout (wide angle)	90	W-06-049_P5270021
W-06-050	Looking upstream from culvert crossing	150	W-06-050_P5300001
W-06-050	Looking downstream from culvert crossing	330	W-06-050_P5300002
W-06-050	Looking at culvert inlets	290	W-06-050_P5300003
W-06-050	Looking at culvert outlets	140	W-06-050_P5300004
W-06-051	Looking upstream from box culvert crossing	220	W-06-051_P5300005
W-06-051	Looking downstream from box culvert crossing	30	W-06-051_P5300006
W-06-051	Looking at box culvert inlet	30	W-06-051_P5300007
W-06-051	Looking at box culvert outlet	220	W-06-051_P5300008
W-06-052	Looking upstream from culvert crossing	200	W-06-052_P5300009
W-06-052	Looking downstream from culvert crossing	40	W-06-052_P5300010
W-06-052	Looking at culvert inlet	40	W-06-052_P5300011
W-06-052	Looking at culvert outlet	200	W-06-052_P5300012
W-06-053	Looking upstream from culvert crossing	260	W-06-053_P5300013
W-06-053	Looking downstream from culvert crossing	80	W-06-053_P5300014
W-06-053	Looking at culvert inlet	80	W-06-053_P5300015

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-053	Looking at culvert outlet	260	W-06-053_P5300016
W-06-054	Looking upstream from culvert crossing	0	W-06-054_P5300017
W-06-054	Looking downstream from culvert crossing	180	W-06-054_P5300018
W-06-054	Looking at culvert inlets	200	W-06-054_P5300019
W-06-054	Looking at culvert outlets	330	W-06-054_P5300020
W-06-055	Looking upstream from culvert crossing	340	W-06-055_P5300021
W-06-055	Looking downstream from culvert crossing	200	W-06-055_P5300022
W-06-056	Looking upstream from culvert crossing	90	W-06-056_P5310001
W-06-056	Looking downstream from culvert crossing	270	W-06-056_P5310002
W-06-056	Looking at culvert outlet	160	W-06-056_P5310003
W-06-056	Looking downstream from culvert crossing	160	W-06-056_P5310004
W-06-056	Looking downstream from culvert crossing	160	W-06-056_P5310005
W-06-056	Looking downstream from culvert crossing	160	W-06-056_P5310006
W-06-056	Looking downstream from culvert crossing	160	W-06-056_P5310007
W-06-056	Looking downstream from culvert crossing	160	W-06-056_P5310008
W-06-056	Looking downstream from culvert crossing	160	W-06-056_P5310009
W-06-056	Looking at culvert inlet	180	W-06-056_P5310010
W-06-056	Looking upstream from culvert crossing	170	W-06-056_P5310011
W-06-057	Looking upstream from culvert crossing	260	W-06-057_P5310012
W-06-057	Looking downstream from culvert crossing	50	W-06-057_P5310013
W-06-057	Looking at culvert inlet	60	W-06-057_P5310014
W-06-057	Looking at culvert outlet	200	W-06-057_P5310015
W-06-058	Looking upstream from culvert crossing	270	W-06-058_P6010001
W-06-058	Looking at South culvert inlet from overhead	N/A	W-06-058_P6010002
W-06-058	Looking at North culvert inlet from overhead	N/A	W-06-058_P6010003
W-06-058	Looking downstream from culvert crossing	90	W-06-058_P6010004
W-06-058	Looking at culvert outlet	270	W-06-058_P6010005
W-06-059	Looking upstream from culvert crossing	360	W-06-059_P6010006
W-06-059	Looking downstream from culvert crossing	180	W-06-059_P6010007
W-06-059	Looking at culvert inlet	165	W-06-059_P6010008
W-06-059	Looking at culvert outlet	85	W-06-059_P6010009
W-06-060	Looking upstream from culvert crossing	345	W-06-060_P6010010
W-06-060	Looking downstream from culvert crossing	160	W-06-060_P6010011

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-060	Looking at culvert inlets	160	W-06-060_P6010012
W-06-060	Looking at culvert outlets	345	W-06-060_P6010013
W-06-061	Looking upstream of project from PTH 110	300	W-06-061_P6060001
W-06-061	Looking upstream wide angle	240	W-06-061_P6060002
W-06-061	Looking downstream from gravel crossing	180	W-06-061_P6060003
W-06-061	Looking at geotextile on the Left bank	190	W-06-061_P6060004
W-06-061	Looking at geotextile on the Left bank	170	W-06-061_P6060005
W-06-061	Looking upstream from gravel crossing	340	W-06-061_P6060006
W-06-061	Looking at Sediment barrier on the Right bank	200	W-06-061_P6060007
W-06-061	Looking at revegetation	180	W-06-061_P6060008
W-06-062	Looking upstream from culvert crossing	325	W-06-062_P6060009
W-06-062	Looking downstream from culvert crossing	100	W-06-062_P6060010
W-06-062	Looking at culvert inlet	60	W-06-062_P6060011
W-06-062	Looking at culvert outlet	245	W-06-062_P6060012
W-06-063	Looking upstream from bridge crossing	180	W-06-063_P6070001
W-06-063	Looking downstream from bridge crossing	0	W-06-063_P6070002
W-06-064	Looking upstream from bridge crossing	200	W-06-064_P6070003
W-06-064	Looking downstream from bridge crossing	5	W-06-064_P6070004
W-06-065	Looking upstream from bridge crossing	180	W-06-065_P6070005
W-06-065	Looking downstream from bridge crossing	0	W-06-065_P6070006
W-06-066	Looking upstream from culvert crossing	260	W-06-066_P6070007
W-06-066	Looking downstream from culvert crossing	120	W-06-066_P6070008
W-06-066	Looking at culvert inlets	130	W-06-066_P6070009
W-06-066	Looking at culvert outlets	295	W-06-066_P6070010
W-06-067	Looking upstream from culvert crossing	10	W-06-067_P6080001
W-06-067	Looking upstream from culvert crossing	110	W-06-067_P6080002
W-06-067	Looking downstream from culvert crossing	270	W-06-067_P6080003
W-06-067	Looking at culvert inlets	250	W-06-067_P6080004
W-06-068	Looking upstream from culvert crossing	295	W-06-068_P6080005
W-06-068	Looking downstream from culvert crossing	105	W-06-068_P6080006
W-06-068	Looking at culvert inlets	75	W-06-068_P6080007
W-06-068	Looking at culvert outlets	260	W-06-068_P6080008
W-06-069	Looking upstream from bridge crossing	180	W-06-069_P6120001

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-06-069	Looking downstream from bridge crossing	0	W-06-069_P6120002
W-06-070	Looking upstream from bridge crossing	90	W-06-070_P6120003
W-06-070	Looking downstream from bridge crossing	270	W-06-070_P6120004
W-06-071	Looking upstream from culvert crossing	10	W-06-071_P6130001
W-06-071	Looking downstream from culvert crossing	200	W-06-071_P6130002
W-06-071	Looking at culvert inlets	205	W-06-071_P6130003
W-06-071	Looking at culvert outlets	310	W-06-071_P6130004
W-06-072	Looking upstream from culvert crossing	310	W-06-072_P6130005
W-06-072	Looking downstream from culvert crossing	125	W-06-072_P6130006
W-06-072	Looking at culvert inlets	90	W-06-072_P6130007
W-06-072	Looking at culvert outlets	300	W-06-072_P6130008
W-06-073	Looking upstream from culvert crossing	340	W-06-073_P6130009
W-06-073	Looking downstream from culvert crossing	150	W-06-073_P6130010
W-06-073	Looking at culvert inlet (covered in mud)	90	W-06-073_P6130011
W-06-073	Looking at culvert outlet	270	W-06-073_P6130012
W-06-074	Looking upstream from culvert crossing	270	W-06-074_P6130013
W-06-074	Looking downstream from culvert crossing	90	W-06-074_P6130014
W-06-074	Looking at culvert inlets	120	W-06-074_P6130015
W-06-074	Looking at culvert outlets	200	W-06-074_P6130016
W-06-075	Looking upstream from culvert crossing	260	W-06-075_P6130017
W-06-075	Looking downstream from culvert crossing	80	W-06-075_P6130018
W-06-075	Looking at culvert inlet	130	W-06-075_P6130019
W-06-075	Looking at culvert outlet	230	W-06-075_P6130020
W-06-076	Looking upstream from culvert crossing	325	W-06-076_P6130021
W-06-076	Looking upstream from culvert crossing	210	W-06-076_P6130022
W-06-076	Looking downstream from culvert crossing	75	W-06-076_P6130023
W-06-076	Looking at culvert inlets	160	W-06-076_P6130024
W-06-076	Looking at culvert outlets	210	W-06-076_P6130025
W-06-077	Looking upstream from culvert crossing	300	W-06-077_P6130026
W-06-077	Looking downstream from culvert crossing	90	W-06-077_P6130027
W-06-077	Looking at culvert inlets	70	W-06-077_P6130028
W-06-077	Looking at culvert outlets	290	W-06-077_P6130029
W-06-078	Looking upstream bridge crossing	90	W-06-078_P6140001

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-078	Looking downstream bridge crossing	270	W-06-078_P6140002
W-06-078	Photo of released Northern Pike	N/A	W-06-078_P6140003
W-06-079	Looking upstream from culvert crossing	100	W-06-079_P6140004
W-06-079	Looking downstream from culvert crossing	240	W-06-079_P6140005
W-06-079	Looking at culvert inlets	195	W-06-079_P6140006
W-06-079	Looking at culvert outlets	60	W-06-079_P6140007
W-06-080	Looking upstream bridge crossing	90	W-06-080_P6140008
W-06-080	Looking downstream bridge crossing	270	W-06-080_P6140009
W-06-081	Looking upstream unnamed tributary	270	W-06-081_P6150001
W-06-081	Looking downstream Bachman Drain	90	W-06-081_P6150002
W-06-081	Looking upstream Bachman Drain	180	W-06-081_P6150003
W-06-082	Looking upstream from culvert crossing	270	W-06-082_P6150004
W-06-082	Looking downstream from culvert crossing	90	W-06-082_P6150005
W-06-082	Looking at culvert inlets	85	W-06-082_P6150006
W-06-082	Looking at culvert outlets	285	W-06-082_P6150007
W-06-083	Dave with students	200	W-06-083_P6200001
W-06-083	Dave with students	350	W-06-083_P6200002
W-06-083	Looking upstream from ford crossing	180	W-06-083_P6200003
W-06-083	Looking downstream of ford crossing	0	W-06-083_P6200004
W-06-084	Looking upstream from culvert crossing	180	W-06-084_P6210001
W-06-084	Looking downstream from culvert crossing	0	W-06-084_P6210002
W-06-084	Looking at culvert inlet	180	W-06-084_P6210003
W-06-084	Looking at culvert outlet	0	W-06-084_P6210004
W-06-085	Looking upstream from north culvert crossing	260	W-06-085_P6210005
W-06-085	Looking upstream from south culvert crossing	260	W-06-085_P6210006
W-06-085	Looking downstream from north culvert crossing	80	W-06-085_P6210007
W-06-085	Looking downstream from south culvert crossing	60	W-06-085_P6210008
W-06-085	Looking at culvert inlet	45	W-06-085_P6210009
W-06-085	Looking at culvert outlet	290	W-06-085_P6210010
W-06-086	Looking upstream from north culvert crossing	100	W-06-086_P6210011
W-06-086	Looking upstream from south culvert crossing	110	W-06-086_P6210012
W-06-086	Looking downstream from road	280	W-06-086_P6210013
W-06-086	Looking downstream from north culvert crossing	270	W-06-086_P6210014

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-06-086	Looking at north culvert inlet from overhead	245	W-06-086_P6210015
W-06-086	Looking at machinery tracks on left bank upstream of culvert crossing	180	W-06-086_P6210016
W-06-086	Looking at south culvert inlet from overhead	270	W-06-086_P6210017
W-06-086	Looking at both culvert inlets from 20 m upstream of crossing	315	W-06-086_P6210018
W-06-086	Looking further upstream from 20 m upstream of crossing	95	W-06-086_P6210019
W-06-086	Looking downstream from top of north culvert	270	W-06-086_P6210020
W-06-086	Looking downstream from top of north culvert	270	W-06-086_P6210021
W-06-086	Looking at north culvert outlet	85	W-06-086_P6210022
W-06-086	Looking at both culvert outlets	90	W-06-086_P6210023
W-06-086	Looking at south culvert outlet (zoomed)	90	W-06-086_P6210024
W-06-087	Looking upstream bridge crossing	140	W-06-087_P6220001
W-06-087	Looking downstream bridge crossing	320	W-06-087_P6220002
W-06-087	Looking upstream under bridge	140	W-06-087_P6220003
W-06-087	Looking south at bank armouring and sediment control	180	W-06-087_P6220004
W-06-088	Looking upstream from culvert crossing	15	W-06-088_P6220005
W-06-088	Looking downstream from culvert crossing	175	W-06-088_P6220006
W-06-088	Looking at culvert inlet	195	W-06-088_P6220007
W-06-088	Looking at culvert outlet	15	W-06-088_P6220008
W-06-088	Photo of released Northern Pike	N/A	W-06-088_P6220009
W-06-088	Photo of released Northern Pike	N/A	W-06-088_P6220010
W-06-088	Photo of released Northern Pike	N/A	W-06-088_P6220011
W-06-088	Photo of released Northern Pike	N/A	W-06-088_P6220012
W-06-089	Looking upstream bridge crossing	80	W-06-089_P6220013
W-06-089	Looking downstream bridge crossing	260	W-06-089_P6220014
W-06-090	Looking upstream bridge crossing	180	W-06-090_P6220015
W-06-090	Looking downstream bridge crossing	0	W-06-090_P6220016
W-06-091	Looking upstream from culvert crossing	180	W-06-091_P6230001
W-06-091	Looking downstream from culvert crossing	0	W-06-091_P6230002
W-06-091	Looking at culvert inlet	45	W-06-091_P6230003
W-06-091	Looking at culvert outlet	210	W-06-091_P6230004
W-06-092	Looking upstream from bridge crossing	280	W-06-092_P6230005
W-06-092	Looking downstream from bridge crossing	100	W-06-092_P6230006
W-06-092	Looking from bridge down at beaver dam west side of bridge	270	W-06-092_P6230007

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-092	Looking at beaver dam from right bank east side of bridge	75	W-06-092_P6230008
W-06-093	Looking upstream from culvert crossing	190	W-06-093_P6230009
W-06-093	Looking downstream from culvert crossing	10	W-06-093_P6230010
W-06-093	Looking at culvert inlets	345	W-06-093_P6230011
W-06-093	Looking at culvert outlets	240	W-06-093_P6230012
W-06-094	Looking upstream from 5m north of culvert inlet at Kris Johnson Drain	180	W-06-094_P6270001
W-06-094	Looking upstream from 5m north of culvert inlet at unnamed tributary	0	W-06-094_P6270002
W-06-094	Looking downstream from culvert crossing	90	W-06-094_P6270003
W-06-094	Looking at culvert inlets	135	W-06-094_P6270004
W-06-094	Looking at culvert outlets	250	W-06-094_P6270005
W-06-095	Looking upstream Blind Bay	180	W-06-095_P6270006
W-06-095	Looking upstream unnamed tributary southwest from crossing	270	W-06-095_P6270007
W-06-095	Looking upstream unclassified drain southeast from crossing	90	W-06-095_P6270008
W-06-095	Looking upstream unclassified drain northwest from crossing	270	W-06-095_P6270009
W-06-095	Looking upstream unnamed tributary northeast of crossing	90	W-06-095_P6270010
W-06-095	Looking downstream Blind Bay	0	W-06-095_P6270011
W-06-095	Looking at culvert inlets	315	W-06-095_P6270012
W-06-095	Looking at algae bloom above culvert outlets	240	W-06-095_P6270013
W-06-096	Looking upstream from culvert crossing	180	W-06-096_P6270014
W-06-096	Looking downstream from culvert crossing	0	W-06-096_P6270015
W-06-096	Looking at culvert inlets	35	W-06-096_P6270016
W-06-096	Looking at culvert outlets	150	W-06-096_P6270017
W-06-097	Looking upstream from culvert crossing	270	W-06-097_P6270018
W-06-097	Looking downstream from culvert crossing	90	W-06-097_P6270019
W-06-097	Looking at culvert inlets	45	W-06-097_P6270020
W-06-097	Looking at culvert outlets	290	W-06-097_P6270021
W-06-097	Photo of Northern Pike	N/A	W-06-097_P6270022
W-06-097	Photo of Northern Pike	N/A	W-06-097_P6270023
W-06-098	Looking upstream from culvert crossing	350	W-06-098_P6280001
W-06-098	Looking downstream from culvert crossing	160	W-06-098_P6280002
W-06-098	Looking at culvert inlets	190	W-06-098_P6280003
W-06-098	Looking at culvert outlets	320	W-06-098_P6280004
W-06-099	Looking upstream from culvert crossing	340	W-06-099_P6280005

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-099	Looking downstream from culvert crossing	160	W-06-099_P6280006
W-06-099	Looking at culvert inlets	200	W-06-099_P6280007
W-06-099	Looking at culvert outlets	0	W-06-099_P6280008
W-06-099	Photo of dead & decaying Common Carp	200	W-06-100_P6280009
W-06-099	Photo of dead & decaying Common Carp	0	W-06-100_P6280010
W-06-100	Looking upstream from bridge crossing	80	W-06-101_P6280011
W-06-100	Looking downstream from bridge crossing	255	W-06-101_P6280012
W-06-101	Looking upstream from box culvert crossing	90	W-06-101_P6280013
W-06-101	Looking upstream from box culvert crossing	45	W-06-101_P6280014
W-06-101	Looking downstream from box culvert crossing	270	W-06-101_P6280015
W-06-101	Looking at culvert inlet	300	W-06-101_P6280016
W-06-101	Looking at culvert outlet	40	W-06-101_P6280017
W-06-102	Looking upstream from culvert	130	W-06-102_P6280018
W-06-102	Looking upstream the 2nd order tributary	0	W-06-102_P6280019
W-06-102	Looking downstream from culvert	285	W-06-102_P6280020
W-06-102	Looking at culvert inlet	350	W-06-102_P6280021
W-06-102	Looking at culvert outlet	25	W-06-102_P6280022
W-06-103	Looking upstream from culvert	110	W-06-103_P6280023
W-06-103	Looking downstream from culvert	285	W-06-103_P6280024
W-06-103	Looking at culvert inlet	15	W-06-103_P6280025
W-06-103	Looking at culvert outlet	160	W-06-103_P6280026
W-06-104	Looking upstream from the right bank	290	W-06-104_P6290001
W-06-104	Looking downstream from the left bank	70	W-06-104_P6290002
W-06-105	Looking upstream from the culvert crossing	270	W-06-105_P6290003
W-06-105	Looking downstream from the culvert crossing	90	W-06-105_P6290004
W-06-105	Looking at the culvert inlet	115	W-06-105_P6290005
W-06-105	Looking at the culvert outlet	235	W-06-105_P6290006
W-06-106	Looking upstream from the culvert crossing	45	W-06-106_P6290007
W-06-106	Looking downstream from the culvert crossing	135	W-06-106_P6290008
W-06-106	Looking at the culvert inlet	40	W-06-106_P6290009
W-06-106	Looking at the culvert outlet	240	W-06-106_P6290010
W-06-107	Looking upstream from bridge crossing	0	W-06-107_P7040001
W-06-107	Looking downstream from bridge crossing	180	W-06-107_P7040002

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-108	Looking upstream from the culvert crossing	340	W-06-108_P7040003
W-06-108	Looking downstream from the culvert crossing	180	W-06-108_P7040004
W-06-108	Looking at the culvert inlet	225	W-06-108_P7040005
W-06-108	Looking at the culvert outlet	340	W-06-108_P7040006
W-06-109	Looking upstream from culvert crossing	90	W-06-109_P7040007
W-06-109	Looking downstream from culvert crossing	270	W-06-109_P7040008
W-06-109	Looking at culvert inlet	330	W-06-109_P7040009
W-06-109	Looking at culvert outlet	45	W-06-109_P7040010
W-06-110	Looking upstream from bridge crossing	280	W-06-110_P7050001
W-06-110	Looking downstream from bridge crossing	80	W-06-110_P7050002
W-06-111	Looking upstream from bridge crossing	300	W-06-111_P7050003
W-06-111	Looking upstream from bridge crossing	250	W-06-111_P7050004
W-06-111	Looking downstream from bridge crossing	95	W-06-111_P7050005
W-06-112	Looking upstream from culvert crossing	250	W-06-112_P7050006
W-06-112	Looking downstream from culvert crossing	80	W-06-112_P7050007
W-06-112	Looking at culvert inlet	70	W-06-112_P7050008
W-06-112	Looking at culvert outlet	330	W-06-112_P7050009
W-06-113	Looking upstream from culvert crossing	270	W-06-113_P7060001
W-06-113	Looking downstream from culvert crossing	90	W-06-113_P7060002
W-06-113	Looking at culvert inlet	15	W-06-113_P7060003
W-06-113	Looking at culvert outlet	330	W-06-113_P7060004
W-06-113	Looking at the culvert crossing from the road	0	W-06-113_P7060005
W-06-113	Looking at the culvert crossing from the road	180	W-06-113_P7060006
W-06-113	Looking at the culvert crossing from the road (wide angle)	320	W-06-113_P7060007
W-06-114	Looking upstream from the culvert crossing	270	W-06-114_P7100001
W-06-114	Looking downstream from the culvert crossing	90	W-06-114_P7100002
W-06-114	Looking at culvert outlet	270	W-06-114_P7100003
W-06-114	Looking at culvert inlet	90	W-06-114_P7100004
W-06-114	Wide angle shot of the washed out crossing	0	W-06-114_P7100005
W-06-114	Photo of replacement culvert behind bushes south of washout	10	W-06-114_P7100006
W-06-115	Looking upstream from the bridge crossing	270	W-06-115_P7100007
W-06-115	Looking downstream from the bridge crossing	90	W-06-115_P7100008
W-06-116	Looking upstream from culvert crossing	180	W-06-116_P7110001

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-116	Looking downstream from culvert crossing	0	W-06-116_P7110002
W-06-118	Looking upstream from culvert crossing	180	W-06-118_P7110003
W-06-118	Looking downstream from culvert crossing	0	W-06-118_P7110004
W-06-118	Looking at culvert inlets	70	W-06-118_P7110005
W-06-118	Looking at culvert outlets	180	W-06-118_P7110006
W-06-117	Looking upstream bridge from crossing	270	W-06-117_P7100009
W-06-117	Looking downstream from bridge crossing	120	W-06-117_P7100010
W-06-119	Looking upstream ford crossing	210	W-06-119_P7110007
W-06-119	Looking downstream ford crossing	15	W-06-119_P7110008
W-06-119	Looking at ford inlet	70	W-06-119_P7110009
W-06-119	Looking at ford outlet	180	W-06-119_P7110010
W-06-119	Photo of released Burbot	N/A	W-06-119_P7110011
W-06-120	Looking upstream bridge from crossing	0	W-06-120_P7120001
W-06-120	Looking downstream from bridge crossing	180	W-06-120_P7120002
W-06-121	Looking downstream bridge from crossing	270	W-06-121_P7120003
W-06-121	Looking upstream from bridge crossing	90	W-06-121_P7120004
W-06-121	Looking further upstream from bridge crossing	90	W-06-121_P7120005
W-06-122	Looking upstream from culvert crossing	270	W-06-122_P7120006
W-06-122	Looking downstream from culvert crossing	90	W-06-122_P7120007
W-06-122	Looking at culvert inlets	130	W-06-122_P7120008
W-06-122	Looking at culvert outlets	190	W-06-122_P7120009
W-06-123	Looking upstream bridge from crossing	180	W-06-123_P7120010
W-06-123	Looking downstream from bridge crossing	0	W-06-123_P7120011
W-06-124	Looking upstream bridge crossing	270	W-06-124_P7180001
W-06-124	Looking downstream bridge crossing	90	W-06-124_P7180002
W-06-125	Looking upstream from culvert crossing	180	W-06-125_P7180003
W-06-125	Looking downstream from culvert crossing	0	W-06-125_P7180004
W-06-125	Looking at culvert inlet	0	W-06-125_P7180005
W-06-125	Looking at culvert outlet	180	W-06-125_P7180006
W-06-126	Looking upstream bridge crossing	0	W-06-126_P7180007
W-06-126	Looking downstream bridge crossing	180	W-06-126_P7180008
W-06-126	Photo of released Smallmouth Bass	N/A	W-06-126_P7180009
W-06-126	Photo of released sculpin	N/A	W-06-126_P7180010

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-06-127	Looking upstream from culvert crossing	90	W-06-127_P7180011
W-06-127	Looking downstream from culvert crossing	270	W-06-127_P7180012
W-06-127	Looking at culvert inlet	0	W-06-127_P7180013
W-06-127	Looking at culvert outlet	110	W-06-127_P7180014
W-06-128	Looking at beaver dam	N/A	W-06-128_P7180015
W-06-128	Looking at beaver dam	N/A	W-06-128_P7180016
W-06-128	Looking at beaver dam	N/A	W-06-128_P7180017
W-06-128	Looking upstream from culvert crossing	130	W-06-128_P7180018
W-06-128	Looking downstream from culvert crossing	330	W-06-128_P7180019
W-06-128	Looking at culvert inlets	200	W-06-128_P7180020
W-06-128	Looking at culvert outlets	300	W-06-128_P7180021
W-06-129	Looking upstream from culvert crossing	140	W-06-129_P7180022
W-06-129	Looking downstream from culvert crossing	320	W-06-129_P7180023
W-06-129	Looking at culvert inlets	340	W-06-129_P7180024
W-06-129	Looking at culvert outlets	240	W-06-129_P7180025
W-06-130	Looking upstream bridge crossing	20	W-06-130_P7190001
W-06-130	Looking downstream bridge crossing	160	W-06-130_P7190002
W-06-131	Looking upstream bridge crossing	80	W-06-131_P7190003
W-06-131	Looking upstream bridge crossing	110	W-06-131_P7190004
W-06-131	Looking upstream bridge crossing	140	W-06-131_P7190005
W-06-131	Looking downstream bridge crossing	260	W-06-131_P7190006
W-06-131	Looking downstream bridge crossing	280	W-06-131_P7190007
W-06-131	Looking downstream bridge crossing	300	W-06-131_P7190008
W-06-132	Looking upstream from culvert crossing	160	W-06-132_P7190009
W-06-132	Looking downstream from culvert crossing	0	W-06-132_P7190010
W-06-132	Looking downstream from culvert crossing	260	W-06-132_P7190011
W-06-133	Looking at released suckers	N/A	W-06-133_P7190012
W-06-134	Looking upstream bridge crossing	310	W-06-134_P7200001
W-06-134	Looking downstream bridge crossing	90	W-06-134_P7200002
W-06-134	Looking directly down from west side of bridge (downstream)	N/A	W-06-134_P7200003
W-06-134	Looking upstream from 10 m downstream of bridge (under bridge)	60	W-06-134_P7200004
W-06-134	Looking upstream from 10 m downstream of bridge (under bridge)	90	W-06-134_P7200005
W-06-135	Looking upstream bridge crossing	140	W-06-135_P7200006

Appendix 8: List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.

Site Number	Photo Description	Azimuth	File Name
W-06-135	Looking upstream bridge crossing	210	W-06-135_P7200007
W-06-135	Looking upstream bridge crossing	250	W-06-135_P7200008
W-06-135	Looking downstream bridge crossing	40	W-06-135_P7200009
W-06-135	Looking downstream bridge crossing	0	W-06-135_P7200010
W-06-135	Looking downstream bridge crossing	340	W-06-135_P7200011
W-06-136	Looking downstream from left bank	90	W-06-136_P7200012
W-06-136	Looking upstream from left bank	270	W-06-136_P7200013
W-06-137	Looking upstream from culvert crossing	150	W-06-137_P7200014
W-06-137	Looking downstream from culvert crossing	270	W-06-137_P7200015
W-06-137	Looking at culvert inlets	330	W-06-137_P7200016
W-06-137	Looking at culvert outlets	20	W-06-137_P7200017
W-06-138	Looking upstream from right bank at riffle/dam	0	W-06-138_P8010001
W-06-138	Looking downstream from right bank at riffle/dam	180	W-06-138_P8010002
W-06-138	Looking at beginning of oxbow from right bank at riffle/dam	90	W-06-138_P8010003
W-06-139	Looking downstream from right bank at dam/weir	0	W-06-139_P8010004
W-06-139	Looking at dam from right bank	90	W-06-139_P8010005
W-06-139	Photo of Northern Pike on ruler (released)	N/A	W-06-139_P8010006
W-06-140	Looking upstream from right bank at OG dam	270	W-06-140_P8010007
W-06-140	Looking downstream from right bank at OG dam	90	W-06-140_P8010008
W-06-140	Looking at OG dam from right bank	180	W-06-140_P8010009
W-06-141	Looking upstream from dam	330	W-06-141_P8010010
W-06-141	Looking downstream from dam	90	W-06-141_P8010011
W-06-141	Looking north at dam	0	W-06-141_P8010012
W-06-141	Looking north at dam	0	W-06-141_P8010013
W-06-141	Photo of released Northern Pike	N/A	W-06-141_P8010015
W-06-141	Photo of released Northern Pike	N/A	W-06-141_P8010016
W-06-141	Photo of released Shorthead Redhorse	N/A	W-06-141_P8010017
W-06-141	Photo of released Shorthead Redhorse	N/A	W-06-141_P8010018
W-06-141	Photo of released Shorthead Redhorse	N/A	W-06-141_P8010019
W-06-141	Photo of released Shorthead Redhorse	N/A	W-06-141_P8010020
W-06-141	Looking upstream from bridge crossing	300	W-06-141_P8020001
W-06-142	Looking downstream from bridge crossing	90	W-06-142_P8020002
W-06-142	Looking under bridge	0	W-06-142_P8020003

Appendix 8: **List of all photographs taken showing the corresponding site number, descriptive caption, direction faced when taken (azimuth in degrees) and the unique file name for each photograph.**

Site Number	Photo Description	Azimuth	File Name
W-06-142	Looking upstream from bridge crossing	270	W-06-142_P8080001
W-06-143	Looking downstream from bridge crossing	90	W-06-143_P8080002
W-06-143	Photo of Freshwater Drum (released)	N/A	W-06-143_P8080003
W-06-143	Photo of Vaughn releasing Freshwater Drum	205	W-06-143_P8080004
W-06-143	Looking upstream from bridge crossing	290	W-06-143_P8080005
W-06-144	Looking downstream from bridge crossing	90	W-06-144_P8080006
W-06-144	Looking upstream from culvert crossing	270	W-06-144_P8080007
W-06-145	Looking downstream from culvert crossing	90	W-06-145_P8080008
W-06-145	Looking at culvert inlet	15	W-06-145_P8080009
W-06-145	Looking at culvert outlet	190	W-06-145_P8080010
W-06-145	Looking upstream from bridge crossing	110	W-06-145_P8090001
W-06-146	Looking downstream from bridge crossing	30	W-06-146_P8090002